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Violence as a Complex Problem in Education in Emergencies:

Developing and Testing the Transformative Resilience Framework

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DECLARATION

I certify that the thesis I have presented for examination for the degree of International Doctor of Education at the University of Sussex is solely my own work, and hereby declare that this thesis has not been and will not be submitted in whole or in part to another University for the award of any degree.

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ABSTRACT

This thesis builds and tests a conceptual framework to study social change from adversity to wellbeing: The Transformative Resilience (T-RES) Framework. It is developed to guide the study of complex problems in the field of Education in Emergencies (EiE). Violence is used throughout this thesis as an example of a complex EiE problem. The EiE field is shifting from an initial focus on short-term humanitarian response to a concern with protracted social problems, such as violence. These problems are socially ingrained and require an understanding of social change.

The development of the T-RES Framework was successfully applied and tested in a demonstrative case of school efforts to mitigate violence in El Salvador. The thesis aims to broaden the theoretical understanding of complex problems in the EiE field. It also adapts a research approach for explanatory causal analysis through qualitative methods. For EiE policy and practice, it shows the limitations of isolated interventions that do not consider the diverse, interdependent, and sometimes hidden drivers of social adversity.

In Part A, the thesis shows that the study of violence solely with methods from a positivist paradigm, such as survey-based and Randomized Control Trials (RCTs), leaves complex causality questions unanswered. These include ignoring the causal relations of diverse social entities (agents and structures) and not explaining process, context and underlying mechanisms. The thesis argues that development agencies entering the EiE field adhere to standards for causal analysis that are not compatible with the inherent complexity of protracted EiE problems.

To help close the complex causality gaps, Part B develops the T-RES Framework. It is grounded in more than 50 years of resilience studies and in the philosophy of science tenets on social change (from adversity to wellbeing) of Roy Bhaskar's critical realism. The T-RES Framework proposes seven constructs to understand social transformation: (i) understanding the interdependence across diverse social entities (agents and structures); (ii) uncovering the hidden forces that sustain adversity; (iii) recognizing assets (strengths and opportunities) for change; (iv) seeking collective awareness and commitment; and contributing to (v) personal

change and empowerment, (vi) collective change and community betterment, and (vii) institutional change and scaffolding.

Part C tested the T-RES Framework and found it useful to guide substantive empirical research on social change in contexts of adversity. It helped to identify causal mechanisms explaining how and why youth violence was mitigated in the three schools studied. First, findings noted the school-level outcomes related to students' non-violent behaviors, including protection, psychosocial wellbeing, and positive educational experiences. Then, the T-RES Framework helped to trace the causal process linking personal empowerment of principals and teachers to their efforts to form alliances with community and gang leaders. This created a collective commitment to mitigate violence in schools, and for community betterment. Teachers' own experiences of recovery from adversity, as well as hope, strategic vision, and resourcefulness, were also underlying contributors to change. However, given limited services from central government and a growing normalization of violence, there was no evidence of structural scaffolding (long-term support) of school efforts for violence prevention.

The T-RES constructs aligned well with the empirical data collected. Also, surprising new empirical evidence pointed to new areas of analysis such as assessing school activities that simultaneously mitigate and reproduce violence. Also, the case data showed different ways to interpret "collective commitment" between school-community, among teachers, and between a teacher and his/her students. This research closes with recommendations to further operationalize the T-RES Framework to better inform EiE policies, program design and funding of EiE research. This includes linking evidence of causal mechanisms to theories of transformative change that can guide designs of interventions.

ACKNOWLEDGEMENTS

CONTENTS

ABBREVIATIONS

BE2	Building Evidence in Education
CB	Cognitive-Behavioral
CCTs	Conditional Cash Transfers
CMO	Context, Mechanism, Outcome
DfID	Department for International Development
ERA	Education Resilience Approaches
E-Cubed	Evidence for Education in Emergencies
EiE	Education in Emergencies
FCV	Fragile, Conflict and Violence
GCPEA	Global Coalition to Protect Education from Attack
GDP	Gross Domestic Product
ICSU	International Science Council
IDS	Institute for International Development
IISS	International Institute for Strategic Studies
INEE	Inter-Agency of Education in Emergencies
JICA	Japan International Cooperation Agency
KNOMAD	Global Knowledge Partnership on Migration and Development
LGBT	Lesbian, Gay, Bisexual and Transgender
MDGs	Millennium Development Goals
MINED	Ministerio de Educación (of El Salvador)
MoE	Ministry of Education
MS	Mara Salvatrucha
NGO	Non-Governmental Organization
NYU	New York University
ODI	Overseas Development Institute
OMC	Outcome, Mechanism, Context
OECD	Organization for Economic Co-Operation and Development

RCT	Randomized Control Trials
RQ	Research Questions
R4D	Results for Development
SDGs	Sustainable Development Goals
T-RES	Transformative Resilience
UK	United Kingdom
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations International Children's Fund
UNODOC	United Nations Office on Drugs and Crime
US	United States
USA	United States of America
USAID	United States Agency for International Development
WHO	World Health Organization

Violence as a Complex Problem in Education in Emergencies:

Developing and Testing the Transformative Resilience Framework

INTRODUCTION

CHAPTER 1: INTRODUCTION, RATIONALE, AIMS and METHODOLOGY

1.1 Background: Protracted and Complex Problems in Education in Emergencies

This section sets the background for the field of interest of this thesis, Education in Emergencies. It also discloses the professional background and interests of the researcher.

Education in Emergencies

This study emerged from my uneasiness with what I will argue is a mismatch between the research evidence and the complex knowledge needs of education in emergencies (EiE). EiE as a field has evolved from its origins at the 2000 World Education Forum in Dakar, Senegal, and demands for an education response during crises (Bensalah, 2002). It is shifting from a focus on humanitarian response to a broader concern for protracted social problems and long-term prevention (McIlwaine & Moser, 2003; Guerra, 2005; Muggah, 2008; Burde, et al., 2015; Nicolai & Hine, 2015). Violence prevention, for instance, is a new EiE interest (INEE, 2015; UNESCO, 2019), which this thesis will show is dependent on social change across individuals, communities, culture, and institutions.

Interest in EiE and violence prevention has also been mainstreamed. The unveiling of the 2030 Sustainable Development Goals (SDGs), has placed greater priority on understanding how violence (including political violence and armed conflict) affects education systems and how these systems can be used to prevent and transform violence (INEE, 2013; Mercy, n.d.). Since

2005[1], the Millennium Development Goals (MDGs) monitoring reports have highlighted that "conflict and violence" are culpable for the lack of education progress in many countries (UNESCO, 2011; UNESCO/UNICEF, 2015). Today the SDGs explicitly call for the prevention of violence (Eisner, et al., 2016; Garcia-Moreno & Amin, 2016; The National Academies of Sciences, Engineering and Medicine, 2018). SDG 4.7 includes promoting a "culture of peace and non-violence" as an aim of education systems (UNESCO, 2017).

The emergency response and recovery emphases in EiE are increasingly shifting to an interest in protracted problems and their prevention. Protracted EiE problems are complex. For example, the aim is to protect schools from armed attacks *and* contribute to long-term violence prevention and wellbeing, or to support livelihood programs for refugees in camps *and* social-cohesion and integration in host communities. Now, the EiE field is also engaging with a core longer term cause and consequence of armed conflict: violence. Issues such as violent extremism, youth violence, and social cohesion (peaceful interrelations) of displaced groups living in host communities have become part of the EiE agenda.

The new and protracted EiE problems are socially ingrained, which makes them inherently complex. Their prevention requires understanding social change across different levels of society: individuals, communities, institutions and culture. The field of EiE recognizes this evolving complexity. For example, the Inter-Agency Network of Education in Emergencies (INEE) has produced guidance for more complex issues such as: (i) "do no harm," which accepts that non-relevant interventions can be detrimental even when well-meaning; (ii) conflict sensitive education, which acknowledges that education can both contribute to escalating or mitigating conflict and violence; and (iii) violence extremism and youth violence, which makes a connection between a lack of education and opportunities and extreme violence (e.g., terrorism and gangs).

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[1] At the 2005 Paris Declaration on Aid Effectiveness, a set of "principles for good international engagement in fragile states" was defined (enacted in 2007) and more recently, in 2011, a "New Deal" for Fragile States was agreed to Bhutan (McCandless et al., 2012).

Personal Professional Background

My professional experience in an international development agency has shaped my interest in the relevance of evidence for EiE policies and programs, and the criteria used to claim rigorous evidence. Personally, I have been part of the EiE evolution towards protracted and more complex problems. I served as co-chair of the Inter-Agency Network for Education in Emergencies (INEE[2]) from 2013 to 2015 and have worked in various countries affected by conflict and violence throughout my 25-year career at the World Bank. My thesis topic was not a recent interest.

From 2010 to 2016, I had the opportunity to participate actively in the EiE policy dialogue and reflection on evidence needs. I led the World Bank's Education Resilience Approaches (ERA) team, whose goal was to understand the role of education in fragile, conflict and violence (FCV) affected contexts. Within my institution, I struggled to make a case for more qualitative approaches to understand complex FCV problems and change. We developed the Resilience in Education System (RES)-360 approach to help education researchers conduct more relevant mixed methods research of complex EiE problems. Researchers from 12 countries conducted RES-360 studies (World Bank, 2014)

My professional concerns with the limited availability of EiE evidence and research methods to examine complex change contributed to my undertaking of a doctoral research program—despite already having a successful career in international education development. Throughout my career, I have seen the most prominent development agencies (World Bank, OECD, ODI, DfID, USAID, etc.) commit resources mostly to what they call 'rigorous' research and evidence. This usually meant quantitative research, relying on variables-based correlations and input-outcome based experimental research. These methodological approaches left behind 'black boxes' of knowledge, as they offered little or no explanation of the process of social change in EiE contexts, especially the "how" and "why."

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[2] The Inter-Agency Network of Education in Emergencies (INEE) was created in Geneva in 2002, following the 2000 World Education Forum in Dakar.

1.2 Problem Statement: Mismatch between EiE Complexity and Evidence and Research Methods

EiE evidence and research methods have not kept up with the acknowledged complexity of the EiE field. While international agencies seek more and better EiE policies and programs, there is limited evidence on what works, how and why. Protracted and socially ingrained EiE concerns, such as violence prevention and social cohesion, require guidance on the complexity of social change. Moreover, understanding such complex change needs a theoretical and empirical debate on causality.

To date, growing research in EiE and protected crises (Burde, et al., 2015; Nicolai & Hine, 2015) tends to prioritize positivism, a research paradigm that values empirical, quantitative and de-contextualized methods, such as Randomized Control Trials (RCTs) (BE2, 2012; DFID, n.d.). Experimental approaches[3] are considered the most rigorous causal analysis.[4] However, these methods are limited in their capacity to engage with complex causal explanations. Social complexity requires evidence that explains the multiple and interdependent social entities and levels (agents and structures) that play a causal role in education in emergencies. Process and core social practices leading to the outcome of interest should be analyzed, including field forces for or against social change. Also, to explain the complexity of social change, its underlying, and often hidden processes, must be explained.

EiE researchers acknowledge both the EiE complexity and the limitations of the research methods they use. Yet, they seem wedded to the "gold standards" of positivism as the most rigorous approach to study causality. This thesis argues that a more relevant understanding of complex causality can lead to more relevant theories of complex social change and, therefore, to better designed policies and programs in EiE.

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[3] And quasi-experimental as the closest alternative when researchers cannot fully control the environment of the experiment and freely assign treatment and control groups.
[4] www.r4D.dfid.gov.uk

1.3 Violence and Violence Prevention as Core Examples of EiE Complexity

Violence is the EiE protracted problem chosen for this thesis to demonstrate the need for better guidance and research approaches to understand complex social problems. Thus, a short introduction to its complexity is needed. The most common definition of violence is "physical force intended to hurt, destroy or kill someone or something" (Oxford Dictionary). The focus is not just armed conflict. Deaths due to armed conflicts (a form of political violence) are being surpassed by other forms violence, especially interpersonal, urban and criminal (World Bank, 2011). More than five million people die each year from self-inflicted injuries or from being injured by others (WHO, 2014); this includes half a million homicides (UNODOC, 2017).

Beyond the statistics of violence, the first level of complexity is the many definitions and categorizations across different social entities (individuals, communities, institutions). For example, the Encyclopedia of Interpersonal Violence (Renzetti & Edleson, 2008) has identified and listed more than 500 such acts, from child abandonment and community violence, youth violence, to forced marriage, gang rape and other forms of gender-based violence. The World Health Organization provided categories of violence based on levels of social entities (Krug, et al., 2002)(Krug et al., 2002): (i) individual (personal factors and violence traits); (ii) inter-personal or relational (domestic, family, intimate violence); and (iii) collective (community, social, political and economic violence).

A second level of complexity is understanding violence as a process. Barak (2006) notes that to understand the complexity of violent behavior and practices, researchers must identify the following phases of the process: (i) the triggers or initiation of violence; (ii) the maintenance or reinforcement through time; and (iii) the change processes (prevention, mitigation and transformation). By focusing on process, studies of school violence have noted patterns of behavior that initially were not easily observable. For example, for bullying, the focus is not only the aggressor. The so-called "bystander effect" provides evidence that the inaction of witnesses of violent acts is an underlying causal mechanism of violence (Staub, 1993; Polanin, et al., 2012). Staub also identified a process of "dehumanization" as a group violence mechanism that facilitated the Rwandan genocide (Staub, 2013). Through dehumanization, a person or group is increasingly considered to have fewer human characteristics than one's own.

A third and deeper level of complexity is that violence can be hidden. Some forms of violence cannot be easily categorized or perceived empirically. This can happen due to inconsistencies in meaning across contexts, or because cultural or institutional causes are hidden from our perceptions. For example, forcing an intimate partner to have sexual relations may be considered rape under the laws of one country, or a marital right in another (Reyes, et al., 2014). Hate crimes against lesbians, gays, bisexuals or transsexual (LGBT) individuals can be a crime in one context or a moral, religious or institutional duty in another (Kollman & Waites, 2009).

Hidden violence is usually related to two types of social entities: culture and institutions. Culture and institutions define victims or aggressors, which violent acts are normalized or punished, and what is silenced and denied. For example, with colleagues from the Education Resilience Approaches (ERA) program, we wrote in respect of sexual violence against men:

> Although young men in armed combat are often recruited as aggressors, it should be equally recognized that they are also victims of gender-related violence. In Iraq, for example, the torture of male detainees included varied forms of sexual assault…. It is difficult to ascertain the number of sexual assaults perpetrated against men and boys because few countries have comprehensive reporting systems for females, much less males; distrust of authorities and fear of social stigma also inhibit victims from coming forward…. (Reyes, et al., 2014, p. 28).

The last characteristic of the complexity of violence is a dynamic context that sustains and reproduces violence. Thus, to understand the complex causal process of violence and better inform policies and practices, context must be studied to understand its forces for or against change.

> Violence is a slippery concept—nonlinear, productive, destructive, and reproductive. It is mimetic, like imitative magic or homeopathy. "Like produces like," that much we know. Violence gives birth to violence, so we can rightly speak of chains, spirals, and mirrors of violence—or, as we prefer, a continuum of violence. We all know, as though by rote, that wife beaters and sexual abusers were themselves usually beaten and

abused. Repressive political regimes resting on terror/fear/torture are often

mimetically reproduced by the same revolutionary militants determined to overthrow

them. Structural violence—the violence of poverty, hunger, social exclusion and

humiliation—inevitably translates into intimate and domestic violence (Scheper-Hughes

& Bourgois, 2004, p. 1).

The above introduction to the complexity of violence and its prevention requires an

understanding, precisely, of its complexity.   EiE policy makers, program designers and

practitioners need evidence on the deeper causal mechanisms likely to support prevention and

longer-term solutions. Ervin Staub (2013), a social psychologist who works extensively in

Rwanda, explains that the ultimate ethical responsibility of addressing the complexity of

violence is preventing the escalation of conflict, human suffering and death:

> Extreme violence usually evolves progressively. Identifying the conditions in a society—
>
> social, cultural, psychological—that in combination make group violence probable
>
> provides opportunities for both early preventive actions and initial constructive social
>
> processes. Preventive practices can also constrain conflict from becoming persistent,
>
> intractable and violent and potentially evolving into mass killing or genocide (p. 576).

1.4 Contributions: Conceptual Framework to Study Complex Change from Adversity to Wellbeing

Beyond critiquing and surfacing the knowledge and research methods gaps in EiE, this thesis

seeks to contribute to potential solutions. It develops and tests a conceptual framework, which

I call Transformative Resilience (T-RES). It intends to serve as a reference tool to study the

process of social change from adversity to wellbeing. I hope it guides researchers to address

some of the evidence gaps on complex social change processes in adverse contexts. These

include understanding the process of social change, uncovering hidden risks and assets, and

addressing multiple, chain-reaction outcomes across social entities (e.g., individuals,

communities, culture and institutions).

I built the T-RES Framework by combining resilience studies evidence and the philosophy of

science of Roy Bhaskar's Critical Realism. Fifty years of resilience studies explains how people

(and their communities and organizations) recover, continue to function, and positively change

in the face of adversity. Bhaskar's Critical Realism provides the ontological and epistemological premise for a broad and complex process of social change.

This thesis also tests the T-RES Framework empirically. Qualitative data was collected from three schools in El Salvador that are implementing activities to prevent youth violence. The aim was to test the alignment between the theoretical tenets of the T-RES framework and the empirical evidence on violence prevention efforts in schools. For this empirical test, the thesis also proposes a methodological approach to study more complex explanatory causality, grounded in abductive reasoning. It aims to open the "black box" of a social change process: (i) the social practices leading to it; (ii) the social entities involved, such as agents and structures (individuals, communities, institutions, culture, etc.); and (iii) the causal contributions ("powers") each social entity brings and how they come together to achieve the outcome of interest. Explanatory causality also engages (rather than controls) context by explaining the field forces that can inhibit or facilitate a causal process (Lewin, 1951; Baulcomb, 2003). For this more compelling "stories" of change, qualitative research is well placed. The test of the T-RES Framework can convert in-depth narratives and good ethnography to causal analysis.

1.5 Design: Aims, Research Questions and Methodological Approach to Build and Test Theory

The purpose of this thesis is to provide more relevant conceptual and methodological tools to study protracted problems in the Education in Emergencies field, considering what is known about the complex process of social change from adversity to wellbeing. For this goal, it builds and tests a new conceptual/theoretical framework.

Thesis Research Design

The central question of this study is: ***In what ways can a theoretical framework combining critical realism and resilience help to fill gaps in our understanding of complex social problems and change and guide more relevant research in education in emergencies?***

This main question is operationalized through the following research questions (RQ). Each RQ will be answered, respectively, in Parts A, B and C of this thesis (Annex 1.1 includes a more detailed guide prepared to answer each of these RQ):

- **RQ1. What are the key evidence and methodological gaps in the field of education in emergencies, and especially in the role of education in violence prevention?**

- **RQ2. How can critical realism and resilience provide the philosophical and empirical grounding to explain the complex process of social change from adversity to wellbeing?**

- **RQ3. How does a framework that combines critical realism and resilience tenets help us understand the complex education and social practices that contribute to violence prevention in El Salvador?**

- **RQ4. Considering the findings from testing the T-RES Framework, what is its utility as an analytical model and how can it be improved?**

I answer the above questions through a systematic process of theory building and testing.

Methodology for Theory Building

To build a theory, Colquitt and Zapata-Phelan proposed four core components: concepts, relations, boundaries, and logic.[5] Theories explain a phenomenon not only through concepts, but also through their relations and clear boundaries of application; a rigorous underlying logic substantiates these components (Colquitt et al., 2007).[6]

Based on Colquitt and Zapata-Phelan's theory building structure, the T-RES framework will be elaborated as follows:

i. **Logic:** Show the underlying logic of the concepts, relations and boundaries of the T-RES Framework, grounded in ontological and epistemological positions of critical realism, as well as their grounding in middle range theories of resilience.

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[5] The researchers reviewed five decades of trends in theory building and testing and extracted these common elements.
[6] Studies that identify relations between concepts and further detail their boundaries are moderate approaches to theory building as they clarify or supplement existing theory. For example, boundaries introduce a new "what" (where, when or for whom) to an existing theory to describe how a relationship of process unfolds. Strong theory-building studies propose the full range of constructs, relations, boundaries and especially underlying logic (Colquitt and Zapata-Phelan 2007).

ii.   **Concepts:** Reconceptualize and integrate constructs (concepts) from Bhaskar's critical realism and resilience to explain the process of social change from adversity to wellbeing.

iii. **Relations:** Propose and make explicit the relationships between the Critical Realism and Resilience constructs noting their connection and interdependence.

iv.   **Boundaries:** Identify the boundaries of the transformative effects proposed by the T-RES framework, especially the field forces that inhibit or facilitate actualization of social entities, their causal process, and activities from adversity to wellbeing (as the outcome of interest).

Colquitt and Zapata-Phelan refer to the logic of a theory as "the underlying processes that explain relationships… [,] concepts… and describ[e] convincing and logically [its] interconnected arguments" (2007, p. 1285). Table 1.1 gives additional details on the theory-building elements for the T-RES Framework.

Table 1.1. Transformative Resilience Framework: Theory Building Elements	
Concepts.	The T-RES framework will weave social transformation concepts from Bhaskar's critical realism with constructs from middle-range theories that have emerged from more than 50 years of empirical studies on human and social resilience. This provides a social change road map from adversity to wellbeing (Archer, et al., 1998). It also takes note of the resilience processes of recovery, functioning and change in the face of adversity within and across social entities: individual, community, organizations, institutions, and culture.
Complex Relations	The T-RES concepts (integrating Critical Realism and Resilience) are connected through a process of complex relations based on current understanding of complex adaptive systems. These include relations across interdependent social entities (agents and structures); a process and sequence of transformative social activities as purposeful practices towards the outcome of interest; and chain-reaction change across social entities.
Boundaries	Conceptual and contextual boundaries will identify limitations of the T-RES Framework, including types of analysis and contextual differences (Lewin, 1951; Burnes, 2004; Colquitt & Zapata-Phelan, 2007). Boundaries can be expanded or constrained further based on feedback from ongoing empirical studies that used the T-RES Framework.

Logic	Ontological and epistemological premises are key to generating an underlying logic for a theory. For the T-RES Framework, Critical Realism (CR) provides the in-depth ontological and epistemological premises to guide social change from adversity to wellbeing. Resilience studies, in turn, provide empirical evidence on how humans (and their communities and institutions) recover, function and change in the face of adversity.

Methodology for Theory Testing

My research is theoretical with an empirical demonstration (Lokke & Sorensen, 2014). The T-RES Framework will be tested empirically with data on violence prevention efforts from three schools in El Salvador. This is an initial assessment of the usefulness of the postulates of the T-RES Framework for empirical research. The specific research design (questions, sample, participants, data collection and analysis) for the El Salvador demonstrative case will be presented in Part C. Here I just present some of the guidance on using case studies to test theory.

For Lokke and Sorensen, "[empirical]… cases are instrumental to the theoretical contribution" (2014, p. 67). There is a subtle difference in case studies for theory building versus those for theory testing. The former help us understand the phenomenon inductively by building theory through explanatory case studies. The latter contributes to our understanding of *how well the theory explains* a phenomenon. In my thesis, I use the latter approach.

A test of an emerging theory assesses how well its conceptual propositions align with substantive, real-world findings (Brinberg & McGrath, 1985). Lokke and Sorensen (2014) maintain that case studies are useful for theory testing, primarily because they assess the level of alignment between empirical evidence and the pre-defined theoretical elements. An empirical test of an already developed theory would seek to:

i.   demonstrate how closely the empirical data aligns with the pre-defined conceptual constructs;

ii.   illuminate the conceptual components that best help to explain the phenomena of interest; and

iii.   revise the conceptual framework itself.

Specifically, the demonstrative case from El Salvador will help assess its empirical alignment with: (i) the constructs and proposed relations of the T-RES Framework; (ii) its model and diagrams; (iii) its conceptual arguments; and (iv) the logical underpinnings based on Critical Realism and Resilience.

Table 1.2 summarizes Colquitt and Zapata-Phelan's guidance for studies that build and/or test theory.

Table 1.2.

Outcomes of Theory Building and Testing Studies

Theory Building	**Theory Testing**
1. Introduces a new construct (or significantly reconceptualizes an existing one) 2. Examines a previously unexplored relationship or process 3. Introduces a new mediator or moderator of an existing relationship or process 4. Examines effects that have been the subject of prior theorizing 5. Replicates previously demonstrated effects	Aligned empirical findings with: 1. Existing theory to be tested 2. Its models, diagrams and figures 3. Its conceptual arguments 4. Its references to past findings 5. Its logical speculations

 Note: Adapted from Colquitt and Zapata-Phelan, 2007, p. 1283

Case Study Methodological Caveat

The methodology and research design for the demonstrative case will be detailed in Part C, where the testing of the T-RES Framework will be elaborated. However, one important caveat is that testing the T-RES framework through an empirical demonstration differentiates from an

actual "case methodology" (Yazan, 2015). The substantive empirical data and specific case-based explanation are secondary to the goal of testing the postulates of the T-RES Framework:

> In theory testing using case studies, propositions are selected and articulated beforehand, and used dynamically in all other phases of the research process. The role of the case thus becomes instrumental, meaning that the '[t]he case is of secondary interest, it plays a supportive role, and it facilitates our understanding of something else (Stake, 1995, p. 437).

The T-RES Framework will present some "necessary" constructs which I will argue are necessary to understand complex social change. Empirical data will be compared to these "theoretical hoops" to assess their usefulness. In general, "[w]hen a researcher conducts a theory test… logical conclusions or predictions, are derived from the theory and are compared to observations, or data, in the case" (Cavaye, 1996, in Lokke and Sorensen, 2014: 68).

To build and test the T-RES Framework, some constructs and relations will be proposed, existing ones may be borrowed or reconceptualized, and new ones explored. Some limitation in the application of the T-RES will be identified ex-ante and others will emerge after testing the framework in the demonstrative empirical case. In general, the T-RES Framework is dynamic and operational and is always informed by empirical findings. It is not a grand theory.

Research Sequence: Initial Recognition of Missing Tools for Qualitative Causal Analysis in EiE

Theory building and its empirical testing, methodologically, are presented as a sequential process. However, before focusing my thesis in building the T-RES Framework (see Part B), I had collected some preliminary empirical data in El Salvador. This initial data pointed to the missing theoretical support to study the complexity of violence. Originally, my thesis was focused on doing a case study of the "resilience of schools in the face of youth and gang violence in El Salvador." Mid-way through my data collection, I realized I was missing the theoretical and methodological tools to explain the process of change from adversity to wellbeing, which resilience seeks to uncover. Especially, I needed theoretical and methodological guidance to conduct qualitative analysis of complex causality (the process, the context, and the underlying mechanisms).

The above realization led to shifting the focus of my thesis to a theory building and testing endeavor. I realized that continuing my case study research without a rigorous ontological, epistemological, and methodological foundation to explain complex causality, my findings would be vulnerable to the traditional criticisms that case study findings cannot explain cause-effect and are not generalizable (Tsang, 2014). My academic and analytical interest was not to only describe the violence prevention activities in the school studied, but to understand the complex process of change. I shifted, then, my doctoral thesis to create the T-RES Framework, as a conceptual and methodological guidance for the causal analysis of complex EiE problems.

Theoretical and Conceptual Approach

This thesis is a theoretical journey to "better understand how to understand" complex social problems in education in emergencies (EiE). A framework demands prior knowledge and evidence of a phenomenon. This is translated into concepts and relations to help researchers better define their own research questions, guide relevant data collection, and align analysis.

Systematic and rigorous explanations of a complex social phenomena require theory building and testing. I follow this guidance for the conceptual components of the T-RES Framework. Brinberg and McGrath (1985) note that research has three components: substantive (real-world), conceptual, and methodological. Conceptual, substantive and methodological research are interrelated (Lokke & Sorensen, 2014). "The 'basic researcher' places primary emphasis on the conceptual domain, the 'applied researcher' desires to make statements about the substantive domain, and the 'technological researcher' aims to develop tools in the methodological domain" (Lynch, 1986, p. 395). My thesis rests mostly in the conceptual domain, with some methodological support.

A theory is not an unproven fact (as the word is often used colloquially), but an explanation of a phenomenom (Bacharch, 1989). It is not the opposite of evidence. Theories are recipients of accumulated knowledge, at different levels of abstraction and interaction with empirical data and real-world situations. Theory, as used in my thesis, does not refer to grand explanations or decontextualized or tautological blanket explanations. A theory explains a phenomenon of interest through its concepts, linkages, boundaries, and the underlying logic that connects all its

components (Colquitt & Zapata-Phelan, 2007). A theory also necessitates empirical grounding. "[I]t is the intimate connection with empirical reality that permits the development of a testable, relevant, and valid theory" (Eisenhardt, 1989, p. 532).

A theoretical approach is especially crucial to explain complex problems with both directly observed and underlying (hidden) elements. Theories help to open black boxes that obscure our knowledge of more complex causal processes: diversity and interrelations of different types of social entities (agents and structures), patterns of social activities, underlying mechanisms, and context. While theories are at different levels of abstraction—farther or closer to empirical data—they all have the purpose of explaining real world phenomena.

At the highest level, ontological and epistemological stances (what we believe the world to be and how we know it) help assess the evidence we seek and the research methods we use for the type of social problem we need to understand. Closer to substantive empirical studies, middle-range theories provide a conceptual scaffolding of existing knowledge and remain close to its empirical evidence across different contexts (Merton, 2007). New empirical studies contribute to building or adapting the knowledge accumulated through theories that explain specific triggers and mechanisms of change (Eisenhardt, 1989; Colquitt & Zapata-Phelan, 2007). Conceptualizing empirical findings allows us to carry them to different contexts. For policies, programs and other interventions, theories of change apply conceptual knowledge to a real-world situation and propose how interventions can lead to a desired outcome. Finally, conceptual frameworks organize prior knowledge to guide new substantive research. Table 1.3 shows the five types of theories or explanations that will be engaged in this thesis.

Table 1.3 Theories at Different Levels of Abstractions (from farther to closer to empirical evidence)	
Philosophy of Science	At the broadest abstraction level, philosophy is concerned with fundamental explanations of the world and knowledge, and the relevant foundations, methods, and theories of science. For example, Roy Bhaskar's Critical Realism, as a philosophy of science, provides initial ontological and epistemological guidance on the inherent causal powers of social entities and the process of social transformation.
Conceptual Frameworks	A framework organizes prior knowledge of a phenomenon, as concepts and relations, for its explanation. It guides new research on what to ask and what to look for initially. Conceptual frameworks are adaptive and should not be used strictly deductively (to fit in data). New information, concepts, and relations can and should emerge from new studies.
Middle Range Theories	Accumulated theoretical and empirical knowledge that explains a phenomenon across contexts but is still aligned with the empirical data. It is not a grand theory and thus placed at a "middle range" between empirical proof and abstraction for transferability to other contexts.
Mechanisms (Mechanistic Theories)	Formalized causal explanations that explain the process ("how") and the underlying influences ("why") that connect causes to outcomes. Mechanisms explain the social activity leading to a desired outcome in a specific situation. They also refer to the properties and powers inherent in social entities (individuals, culture, institutions) to make something happen (causality).
Theories of Change	Specific causal assumptions made for an intervention (policy, program, project). They are built on local knowledge and available global knowledge related to the outcomes of interest. They describe the inputs, activities and products leading to intermediate and final outcomes.

In summary, "theory," as used in my thesis, is aggregated and abstracted knowledge about a real-world problem. Theory is applied and interacts with the real world, both in its empirical manifestations and underlying processes.[7] Through their application, theories are constantly being revised and extended.

Limitations

Although the building and testing of the T-RES Framework will demonstrate the benefits of conceptual research and explanatory causality, my thesis does not fully explain the causes of violence in El Salvador nor does it recommend specific solutions. As mentioned earlier, the case data is secondary to the testing of the proposed constructs and relations for complex social change in adverse contexts. However, I do hope the T-RES framework can guide researchers to more fully explore the complexity, process, underlying mechanisms and context of social change in the topic of youth violence and education.

Also, as noted before, my demonstrative empirical case is intended only as an instrument to test the T-RES constructs and relations to study complex social problems. An actual case study would need to follow the specific methodological guidelines of the chosen method: exploratory case, explanatory case, critical case, extended case, and realist case (Stake, 1995; Trimarchi, 1998; Yin, 2008; Burawoy, 2009; Yazan, 2015). This is not to say that the T-RES framework could not complement any of these methods in a substantive research project.

Lastly, although the impetus of this thesis is to generate better evidence for EiE policy and programming, I do not engage with the policy building and program design implications. My aim is for this initial theoretical journey to contribute to more innovative ways of understanding complex social change and to begin filling the gaps in EiE research (see Part A). More relevant EiE evidence can help prepare theories of change, which in turn can guide policy, program and project design.

1.6 Structuring the Thesis Report

I organized my study in three parts following the sequence of issues proposed in this introduction: Part A (Chapter 2) provides examples of the research gaps (evidence and methods) to assess the complexity of education in emergencies, and especially violence. Part B is divided into two parts: Chapter 3 develops the constructs, relations, boundaries and logic behind my T-RES framework. Chapter 4 discusses abductive research methods to operationalize the T-RES Framework in an empirical study. Part C of my thesis illustrates the T-RES framework in a demonstrative empirical case of violence prevention in education settings

in El Salvador. Chapter 5 presents the research design and background for the demonstrative case. Chapter 6 applies the T-RES framework "theoretical hoops" to identify and assess school social practices to prevent or mitigate youth violence. Chapter 7 tests the T-RES Framework support to generate causal mechanisms explaining the 'how' and 'why' of complex social change. Chapter 8 concludes by examining the lessons learned from testing the T-RES framework, some implications for policy and practice, and additional recommendations.

Figure 1.1 (following page) shows the thesis organization in graphic form.

Figure 1. 1 The Transformative Resilience Framework:
Explaining Complex Problems in Education in Emergencies (EiE)

Part A   **Part B**   **Part C**

Education in Emergencies and Related Research

- Protracted EiE Problems & Prevention
- Limits of Positivism for Complex Causality
- Mix of Methods for Complex Causality

T-RES FRAMEWORK
- 50 Years of Resilience Findings
- Social Change From Adversity to Wellbeing (Bhaskar's Critical Realism)
- T-RES Framework

RELEVANT RESEARCH METHODS
- Map Complexity
- Describe Social Activity
- Interpret Purposeful Practice
- Infer Causal Mechanisms

T-RES DEMONSTRATIVE TEST

- El Salvador Schools & Violence Prevention
- Theoretical T-RES "Hoops"
- Causal Mechanism: How and Why?

EVIDENCE FOR EiE POLICIES & PROGRAMS

- Theories of Change
- Designs

PART A: EVIDENCE AND METHODS GAPS IN EDUCATION IN EMERGENCIES AND VIOLENCE PREVENTION

Overview of Part A

Part A of my thesis provides evidence for my argument that increasingly complex social problems in Education in Emergencies (EiE) are not being matched by relevant research methods. I use violence as an example of the complex social problems in EiE.

Chapter 2 analyzes, what I argue, is a mismatch between the complex needs of EiE and the type of evidence being collected. The EiE field aims to address and prevent protracted social problems, including conflict, displacement, and other forms of violence related to gender, youth, criminality and other factors (Pigozi, 1999; Nicolai & Triplehorn, March 2003; Sinclair, 2007; Winthrop & Matsui, 2013; Lerch & Buckner, 2018). In this transition from short-term humanitarian efforts to addressing longer-term social problems, EiE policy and practice require more relevant evidence.

CHAPTER 2: THE EDUCATION IN EMERGENCIES AND EVIDENCE RESEARCH CONTEXTS

Social problems are inherently complex. They involve diverse social entities (people, groups, institutions), are affected by multiple inter-relations, and are influenced by context. To understand social problems, one must explain how and why they occur. However, as development agencies enter the EiE field, they continue to rely on causal analysis that is linear, empiricist, and has limited understanding of process and context.

This chapter is organized as follows: Section 2.1 shows the transition of the EiE field from short-term humanitarian response to addressing and preventing protracted social problems. Section 2.2 argues that this more complex agenda has not been matched by relevant research evidence, due to an overreliance on positivistic research methods. Section 2.3 shows that a broader mix of research methods can provide richer explanations of complex EiE problems; I use violence and violence prevention for this demonstration. Section 2.4 provides a conclusion.

2.1 The Evolution of Education in Emergencies Towards Protracted Social Problems

The role of education amid crises, including conflict and violence, was not formally recognized until the turn of the century. In major international development agencies, such as the World Bank, policies governing work in conflict settings were not available until the late 1990s; a post-conflict trust fund followed (The World Bank, August 1999). In the humanitarian sector, EiE advocates focused on convincing these international actors that education could also be a protective and life-saving intervention amid crisis (Tawil, 2000; Sinclair, 2001; Nicolai & Triplehorn, March 2003).

The formal term, "education in emergencies," dates to the establishment of the Millennium Development Goals (MDGs). In 2000, at the World Forum in Dakar, Senegal, education ministers from around the world endorsed international support for education systems facing conflict, natural disasters, and other crises (Sinclair, 2007). Subsequently, the Inter-Agency Network of Education in Emergencies (INEE) was created. It brought together humanitarian and development practitioners, researchers, and agencies to share their experiences and to professionalize this new field (Mendizabal, et al., 2011).

The international development system slowly began to recognize that countries facing emergencies and crises required differentiated development support, including education services. In 2005, the Paris Declaration on Aid Effectiveness asked international agencies to commit to a set of principles for working in fragile and emergency situations, including do-no harm, nation building, inclusiveness, and aid coordination. These principles were tested in countries affected by violent conflict around the world, including Nepal, Somalia, Sudan, and Yemen (OECD, 2008).

Towards a more complex EiE Agenda

Over time, there were growing demands for EiE to expand its focus from immediate response and recovery support following an acute emergency to more protracted and socially-ingrained problems. Conflict, for example, led to protracted displacement, though mostly to host communities and not to traditional refugee camps. Also, violence did not always end with the signing of peace accords. Other forms of violence remained, killing as many people as the armed conflict did. Data from the World Health Organization showed that, in 2014, "five times as many people died from homicide each year than from war-related injuries (UNCHR, 2014, p. 3). Moreover, conflict expanded to cities aided by rapid urban growth.

> Some urban centers in fragile and conflict-affected countries have become sites of 'conflict expansion'—convergence points for illicit economies, non-state armed groups, and displaced populations. In other words, cities become tightly integrated into the broader dynamics of armed conflict by sustaining, magnifying and transforming its dynamics and sometimes leading to new conflict (IISS, 2019, pp. 21-28).

Populations displaced by conflict or violence are growing and remain in a chronic state of vulnerability. The United Nations High Commissioner for Refugees (UNHCR) reports that 65.3 million people (1 in 113 persons) had been displaced by conflict or persecution by 2015 (Edwards, 20 June 2016). By December 2018, the number of people forcibly displaced had risen to 70.8 million (UNHCR, 2019), up from 67.7 million in January of the same year (UNHCR, 2017). In Turkey alone, by 2018, there are close to 4 million refugees—3.6 million were Syrian and 1 million of them were school aged children and youth (UNHCR, 2018).

Most live in Turkish towns and cities. There are different calculations of how long displacements last, but depending on the particular situation, they can last from 4 to 23 years (Devictor & Do, 2016).

EiE Response to Protracted Problems: International Commitments to Prevention

Recognizing the complexity and protracted nature of conflict and violence, a "New Deal[8]" was endorsed by donors and country leaders to provide support to communities affected by conflict and violence (Hooley, et al., 2014). The New Deal called for more relevant services for response, recovery and prevention of conflict and violence.

In education, the EiE field began to address more directly the protracted consequences of conflict, including violence prevention. At least three approaches were prominent: do no harm, conflict-sensitive education, and prevention of violent extremism. Do no harm approaches recognized the complexity of education interventions and that their outcomes could not be assessed linearly: schools could contribute to either violence prevention or to violence reproduction (Anderson, 1999). Conflict-sensitive education programs approached prevention by assessing curricular and pedagogical practices that could fuel lingering and underlying conflict tensions (INEE, 2013). Violent extremism initiatives focused on disfranchised adolescents and youth who could be at risk for indoctrination into terrorism and other ethnic, religious or political forms of violence (UNESCO, 2019). These approaches recognized that conflict was just one manifestation of more socially ingrained forms of violence and began to address inter-group tensions and its longer-term risks.

Yet, despite the international commitments during the first decade of the century, the effects of conflict and violence on education continued to escalate. In 2011, two major international education reports noted the discouraging results. The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2011) calculated that countries in or recovering from conflict accounted for 77% of the deficit in achieving primary enrollment in education. The World Bank (2011) estimated that globally, 1.5 billion people lived in fragile situations with recurring or chronic violence. By the end of the MDGs campaign in 2015, more than 110 million children and adolescents (58 million of primary age and 63

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[8] At the Fourth High-Level Forum on Aid Effectiveness in Busan 2011

million of lower secondary age) were still out of school, and 50% of them were in conflict settings (UNESCO/UNICEF, 2015, p. 45).

The MDG monitoring reports claimed that conflict and violence were among the main causes of millions of children still not being enrolled in school (UNESCO, 2015). Violence not only negatively affected the achievement of educational outcomes, such as access, retention and learning, it also threatened the lives and wellbeing of education actors directly. Schools were destroyed, students and teachers killed, and children and youth continued to be affected by violence even after armed conflicts ended (Glad, 2009; GCPEA, 2019; UNODOC, 2019). Children, youth, and their families are displaced by violence and face it daily in their communities and schools.

With the unveiling of the Sustainable Development Goals (SDGs), the international humanitarian and development system has once again committed to addressing conflict and violence. The new international commitments for education for 2030 include a more explicit violence prevention agenda (United Nations, 2015). SDG Goal 4 ensures "inclusive and quality education for all" and promotes "life-long learning," and it explicitly sets access and wellbeing targets for children of primary school age living in conflict-affected areas (indicator 4.7). It also notes that, by 2030, education systems must ensure the "promotion of a culture of peace and non-violence" (Ibid). These education goals complement other SDG targets "to eliminate all forms of violence against women and girls (SDG 5.2); eliminate all harmful practices, such as child, early and forced marriage, and female genital mutilation (SDG 5.3); significantly reduce all forms of violence and related death rates everywhere (SDG 16.1); and end abuse, exploitation, trafficking and all of forms of violence against children (SDG 16.2) (Mercy, n.d.)".

Compared to the more easily observable and quantifiable MDG education indicators, such as universal completion of 6th grade, the SDGs goals are complex. The education SDG 4 alone has 10 targets (each with a broad number of indicators). In addition to traditional indicators for quality early childhood, primary, secondary, and technical education, there are also targets related to education contributions to human rights, gender equality, and the promotion of a culture of peace and non-violence (UNESCO, 2018). This complexity has been criticized. For example, Professor William Easterly, an economist at New York

University (and a former World Bank staffer) wrote an article titled "The SDGs should stand for Senseless, Dreamy Garbled" (2015) in which he said many SDG targets were not quantifiably nor time-bound.   An article in *The Economist* further called the SDGs "worse than useless" (Economist, 2015). These critics did not provide alternatives to deal with the complexity of the social problems SDGs are trying to address. On the contrary, the International Council for Science (ICSU) developed its own guide to "… support more coherent and effective decision-making, and to facilitate follow-up and monitoring of progress (2017, p. 7)."

These debates over the SDGs underscore the increased complexity of education in emergencies. Solutions may indeed require 169 targets; however, the question is "do we have the evidence to understand the causes of complex social problems, such as violence, and to guide the design of interventions, programs and policies?"

Understanding Social Change: EiE Complexity Gaps

The new international commitment to prevent protracted EiE problems requires an understanding of the complexity of social change. For example, violence, as a social problem, is inherently complex. It manifests itself across different levels of society: individual (e.g., suicides), interpersonal (e.g., homicides), collective (e.g., genocides), political (armed conflict) and other forms of institutional and cultural violence. Humanitarian and development agencies have made commitments to address school violence, but there has been less impetus to address other manifestations, such as urban violence, hate crimes and ethnic conflicts. However, all are interrelated. For example, youth and gang violence in Central American is interconnected with urbanization, criminal activity, drug trafficking and gender-based violence (Arana, 2005). Moreover, youth gang violence contributes to loss of life, displacement and forced migration, just as much as the past civil wars; ironically, many youths join gangs for protection (Sobel & Osoba, 2009).

Violence prevention needs to address this complexity (WHO, 2002), but the relevant EiE evidence, I will argue, is still limited. It requires understanding the process that sustains and reproduces violence across many complex interrelations, within and across contexts (Scheper-Hughes & Bourgois, 2004). An even more daunting challenge is the fact that these protracted EiE problems are rooted in deep structures (institutions, culture) that can

contribute to violence or peace (Galtung, 1990; Staub, 2003; Reyes, et al., 2014). Culture and institutions tend to exert their influence in hidden ways (Bourdieu, 1989; Bevir, 1999). This requires critical analysis. For example, Novelli (2017) demonstrates that EiE interventions, themselves, are not always justified by purely education and protection objectives. Noting current conflict-sensitive education and efforts to combat violent extremism, he points to some underlying interests such as military or intelligence objectives, as well as to Western indoctrination (Novelli, 2011).

2.2 More Relevant EiE Evidence Needed to Understand Complex Causality

Recognizing its complex agenda, the EiE field needs relevant evidence and analytical approaches. For instance, in 2015, INEE convened a discussion among researchers and practitioners working in the field to discuss the role of education in urban violence and violent extremism. At the conclusion, it was clear that more appropriate research and programmatic responses were needed, given the complexity of violence as a protracted crisis (INEE, 2015).

The Positivistic Paradigm: Causal Evidence on Education in Emergencies

As EIE research for policy, programming and evaluations is, in large part, financed by international development agencies, it merits an inquiry into their preferred evidence and research methods, especially in relation to causality. For example, the World Bank, DFID, USAID, and other agencies are partners in the "Building Evidence in Education" (BE2) initiative, which aims to provide standards for rigorous and scientific evidence in education. A similar initiative, the Evidence for Education in Emergencies (E-cubed) Trust Fund, has been proposed by Dubai Cares "to generate more and better evidence to inform decisions and policies on effective strategies and the models of delivery of education in emergencies with the greatest potential impact" (www.dubaicares.ae).

The definition of rigorous research for development agencies, however, tends to be mostly positivistic. Although there are different views of positivism, the general preference is for empiricism (emphasizing only observable facts) and quantitative approaches—considered the most objective for causal analysis (DiVanna, 2012, p. 5). BE2, for example, promotes quantitative research… "to explore causal or correlational relationships (2012, p. 7)," therefore equating causal analysis more closely with statistical analysis. Its guide to impact

evaluations does mention qualitative data, but it does not propose specific analysis or approaches.

The focus is on which policies, programs, and projects show a positive "effect size" in a narrow set of outcome variables. Causality, in positivism, seeks a constant conjunction of two events or intervening and outcome variables. It cannot provide understanding of "how" these interventions work, nor explain "why" they can achieve an intended outcome (Eyben, 2013, p. 14). Goertz and Mahoney call these different causal approaches "effects of causes" (the impact of an intervention) and "causes of effects" (the explanation of an outcome) (2012, pp. 41-50). International development prefers to study interventions, assess the size of their effects on an outcome variable (effects of causes), and then promote their replication elsewhere. It does not seek to understand an outcome or phenomena (causes of effects) and lets each context define its relevant interventions.

The focus on the "what" (the existence and effects of a policy, program or intervention) undermines the more complex understanding of a causal process (the "how') and the underlying mechanisms leading to an effect (the "why"). For example, Heller and her collaborators (Heller, et al., 2015) show through an RCT that cognitive behavioral interventions have contributed to lower youth-related crime and school dropout. This is impressive. However, the RCT does not address other potential mechanisms and underlying influences in causal processes, such as a positive mentoring relationships and protective environments.[9] Context can also have a causal influence; however, RCTs explicitly keep them out of the analysis (i.e., controls them). Heller and her team assessed the effect of a predefined cause: the cognitive behavioral workshops received by the treatment group. The broader causal explanation of how and why violent behavior was reduced was not addressed; indeed, the selected research method could not address this causal explanation.

Relying solely on positivist research to generate causal evidence, at the expense of other methods, has been critiqued (Eyben, et al., 2015). Eyben expresses this critique in her paper

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[9] For example, more extensive research on cognitive behavioral therapy in clinical settings shows that the interpersonal relation between the client and the therapist—rather than a particular therapy method used—has the largest effect on the healing process (Lambert, 1989)

for the 2013 Politics of Evidence Conference at the Institute of Development Studies (IDS), at Sussex University:

> Hard evidence, rigorous data, tangible results, value for money—all are tantalizing terms promising clarity for the international development sector. [Results-based management and evidence-based policy/programming] both assume that evidence pertains only to verifiable and measurable facts and that other types of knowledge have no value: both [showing] a particular understanding of causality, efficiency and accountability (2013, p. 3).

No Seeming Alternatives to Causal Research: Positivism and Post-Modernism

The previous section argues that traditional positivistic research methods do not address the new needs of EiE evidence related to complex social problems and change. There are mainly four gaps that need to be addressed: (i) the causal role of multiple and interconnected social entities, (ii) the change process leading to the desired outcome, (iii) underlying forces and causal mechanisms; and (iv) the influences of context on causal processes (see Table 2.1).

Table 2.1. Complexity Shift in the Education in Emergencies Field and Positivism and Research Method Gaps	
EiE Field Shift	**Analytical and Research Method Gaps to Understand Complexity**
Protracted EiE Problems and Prevention in Social Settings	• **Multiple Entities and Relations.** Understand the causal role of multiple social entities (individuals, communities, institutions, culture, etc.), especially the interaction between social agents and social structures. • **Causal Process.** Explain patterns of social activities or events leading to desired change, connecting interventions with outcomes • **Hidden Influences.** Uncover underlying causal forces and the power of diverse social entities (people, communities, culture, institutions) to make something happen. • **Context.** Understand field forces that inhibit or facilitate the process of social change, including who or what participates or is excluded.

If positivistic research is not able to explain complex causality, what is the alternative? Post-modernism has been proposed as better aligned to a complex social world (Cilliers, 1998).

In traditional postmodernism, one can capture diverse views and multiple accounts of a process. However, the postmodern conceptualizations tend to be broad and limit their operational guidance to policy and programming. For example, postmodernist Iddo Landau's conceptual analysis of violence renders the following:

> The term 'violence" is used by many postmodernists to refer to a wide array of phenomena. Deleuze, for example, describes violence as the relations between Plato's Forms and the concrete, changing entities of our world. Kristeva refers to the separation of the mother's body and infant's body at birth as violent. Baudrillard takes the 'supremacy of technical efficiency and positivity, total organization, integral circulation, and the equivalence of all exchanges" of the global media and information culture to be violent. … [For] Derrida, the conditions that allow for the conceptualization of everything, including violence, are themselves violent. …. Judith Butler agrees with him…" (2010, pp. 67-68).

The postmodern position on complexity can be highly relativistic. Complexity can only be understood subjectively and in context, while causality is elusive (O'Meara, 2001). For post-modernists, "[c]ausation is something that does not occur in an external reality. The existence of causal relations depends on the presence of minds, speakers, observers or the like" (Weber, 2008, p. 60). Postmodern researchers provide seemingly limited guidance on how to influence and manage complex change and their core tenets of 'context only' and 'inter-subjectivities' appear to conflict with policy, programming and design needs:

> Social constructionists hold that since social reality is a social construction, the only thing worth investigating is how the construction is carried out. …. [I]t leads to anti-theoretical tendencies…. [Yet] reflection over our theories, and the ensuing development of them, in order to better understand what we study, is an integrative part of research…. As Bourdieu has pointed out… [they] stop where the real fun begins, instead of posing questions such as: "Why do people construct society in the way they do?" and "How do these constructions function, as patterns of social reality, once they have been constructed?" (Alvesson & Skoldberg, 2009, p. 37)

The understanding of causality seems to be trapped between an empiricist account (positivism) and an elusive and relative form (postmodernism). Yet, postmodernism is not a

monolithic paradigm. Some social constructivists provide insights for the design of social policy and programming. For example, they seek to understand key social activities in context, and generate concepts and relations that can guide the design of interventions to address an outcome of interest (Clarke, 2005; Charmaz, 2013). This guidance is grounded in empirical studies that provide some abstracted principles on how to address social problems.

> Constructivism occupies the middle ground between rationalist approaches (whether realist or liberal) and interpretative approaches (mainly postmodernist, post-structuralist and critical), and creates new areas for theoretical and empirical investigation (Adler, 1997, p. 319)

It is undeniable that different ontological and epistemological positions of causality lead to different preferred methodologies for research and evidence. Rather than defending one methodology over another, it is more important to clearly articulate the philosophical and theoretical underpinnings of the research approach to be used:

> There are substantial benefits in adhering to a clear methodology and being explicit about the epistemological standpoint when conducting research. Doing so can help to explain how research findings are generated and how robust they are, why findings can or cannot be extrapolated and generalized, and how they may or may not be able to inform policy (Prowse, 2008, p. 3).

2.3 Evidence for Education in Emergencies: What Different Research Methods Offer

The previous section concluded that there are no "valid" or "invalid" research methods. There is just a set of methodological tools to address different types of research questions. A complex causal question that address multiple entities and interrelations, process, observable and underlying mechanisms, and context may require a different approach than positivistic methods (such as correlations or RCTs), or a mix of methods, each addressing a different component of complex causality (Mertens, 2015).

EiE researchers constrained by positivistic methods to assess causality

EiE field researchers are beginning to embrace the complexity of evidence demanded by protracted and socially ingrained problems. However, they are still constrained by the preponderance of positivistic research methods in international development. EiE research

from the Overseas Development Institute (ODI) and New York University (NYU) exemplify this argument.

Nicolai and Hine (2015) from ODI conducted a study to show the benefits of investing in EiE. They showed that EiE had shifted from responding to acute crises to being preoccupied with protracted problems and long-term prevention. The researchers also showed that education demands in emergencies are complex and range from man-made catastrophes (conflict, displacement, etc.) to natural disasters (earthquakes, floods, droughts, etc.). Protracted crises also led to more complex education demands from communities, including lifesaving (protective) and livelihood (promotive) support (p.9).

The main goal of ODI's research was to substantiate investments based on EiE outcomes. Here, the ODI researchers returned to a traditional linear analysis of education by calculating returns based only on access (primary, secondary and tertiary) and increased future earnings (p.87). EiE value was placed solely in quantifiable academic and productive outcomes. Safety and wellbeing were not addressed, given their complexity and measurement difficulty. The ODI researchers did question their own study's reductive focus:

> Future research to quantify the likely high and varied returns to investing early in education could be key to securing greater sources of funding and institutional support for education in emergencies. These could highlight not only the direct economic benefits through increased learning outcomes leading to increased earnings in the future but also the wider benefits to wellbeing for example through the psychosocial support education offers during the early phase of an emergency or the value of peace and state building during or following a conflict (p.31).

EiE contexts call for new education goals such as safety, wellbeing, and social cohesion, and equipping the education community to become agents of social change (Reyes, 2013). The research by Burde and her collaborators from NYU attempted to address the more complex wellbeing outcomes of EiE services (2015). They reviewed 251 articles on violent conflict and natural disasters to collect evidence on education programs that contributed to three objectives: educational access (formal or non-formal programs), quality of learning (related

to both academic and attitudinal/human values), and holistic wellbeing (physical, cognitive, emotional and social health).

Their findings pointed to three strategies that seem to cut across all three objectives: (i) use of community participation, (ii) flexible modalities (accelerated learning, distance programs), and (iii) the use of complementary in-school psychosocial approaches, such as creative arts, play therapy and after-school activities (p.vi). While these strategies were identified, Burde and her colleagues did not deepen the explanation of *how* and *why* these were relevant.

A more complex causal analysis could have identified the social actors and social activities that contributed to community participation, flexible school services, and psychosocial support. They could have explained the change process within each strategy, including the interactions that led to the three stated outcomes (access, learning quality and wellbeing). An understanding of contextual factors that promoted or inhibited participation, flexibility and psychosocial wellbeing would have expanded our understanding of these EiE strategies. A broader explanation of the causal process, through more qualitative methods, could have provided useful guidance.

Limited by the "gold standard" for causal analysis, the NYU researchers shifted their attention to the only interventions that could be evaluated through RCTs: Conditional Cash Transfers (CCTs). Sensing their own methodological bias, the NYU researchers added a note of caution:

> …when we devote space to discussing conditional-cash transfer (CCTs) [for example,] it is because significant evidence exists to show the effects of these programmes, not because we believe these programmes should receive more attention (or funding) than others. In fact, it is quite likely that there are many interventions that have as strong effects or stronger effects that CCTs, but there are no studies to show their effects (Burde et al., p.2).

Indeed, the analysis of complex causal processes in EiE requires a different epistemological and methodological approach. However, the traditional pressure of positivism prevents a much-needed methodological flexibility (Ramalingan, et al., 2008; Eyben, 2013).

Violence in EiE: A Mix of Research Methods for Complex Causality

Expanding the methodological choices available to EiE researchers is necessary to collect more relevant evidence of what works, how and why. In this section, I review a sample of different methods that can be used to research violence and causality in social systems. The intention is not to present the state of the art of violence and violence prevention evidence; the aim is to show what different methods can do. A mix of research methods can explain different parts of a complex problem: (i) its multiple categories, (ii) the size effects of interventions ("effects of causes"), (iii) the multiple social entities and inter-relations at play, (iv) the process, (v) the underlying and hidden influences, and (v) the context.

The sample reviewed was not selected systematically, as the interest is purely a methodological demonstration. This literature is not intended to produce evidence to underpin an understanding of violence, nor its current thinking (Robinson & Lowe, 1015). Its intent is solely to demonstrate the complex causality explanation contributions and gaps that each of the following research methods have:

- Surveys, correlational and other advanced statistical analysis to identify violence related risks and potential prevention assets;
- A randomized control trial attempting to rigorously show a one-to-one association between an intervention and its effects on preventing violent behavior;
- Case studies on violence prevention in schools and communities, showing the importance of context in the analysis of causality;
- Critical analysis, especially surfacing underlying structural forces that sustain violence;
- Theory-based research that guide inferences of underlying processes; and
- Realist approaches that engage with multiple social entities and their social activities leading to the outcome of interest, violence prevention.

I selected samples of each of the above methods using the following criteria: (i) methods that represent different research paradigms (positivism, interpretative, critical and realist); (ii) violence related studies; (iii) samples from EiE researchers, where possible; and (iv) studies published after 2000, mostly within the last 10 years.

Surveys and Correlational Analysis

Surveys are useful in identifying the characteristics of a population by collecting information or opinions of participants. In contexts of adversity, such as in EiE, surveys mostly collect information on risks. When researchers come from a resilience or positive psychology orientation, they may also use surveys to measure the availability and level of assets—strengths, opportunities and resources to recover and function in adverse situations (Reyes & Kelcey, 2014).

For example, in Guerra's (2005) synthesis of studies on youth crime prevention conducted for the World Bank, the studies (mostly survey-based) identified both the risks associated with violent behavior and the assets that could be leveraged for protection and prevention. Her review of the literature showed long lists of biological, cognitive/academic, and behavior risks, as well as those related to inter-personal, group (families and peers), community and societal risks. The gamut of risks is long, ranging from poor impulse control; access to small arms, drugs and alcohol; fast urbanization; and social disorganization of neighborhoods. Poverty, social disadvantages and inequalities are also factors (p. 15).

Having identified "risk factors [as] scientifically established factors or determinants for which there is strong objective evidence of a relationship to youth violence" (2005: 12), Guerra also proposed that a list of protective factors and resiliency needs to be identified as assets for protection and prevention:

> **Protective Factors** or Assets are scientifically established factors that potentially decrease the likelihood of violence, thus "protecting" youth from risk or adversity [; and] **Resiliency** emphasizes the ability to overcome obstacles, bounce back from frustration, and become a healthy and productive individual [.] ….Because risk factors research emphasize what is "wrong" with youth and communities, a focus on assets has been embraced as building on what is "right" or what should be made right in communities. (2005: 12, original bolds)

As noted in the earlier definitions of violence, the lists of taxonomies are useful for presenting the complex range of expressions of risks and protective assets. However, they provide limited guidance on how to intervene and why prevention strategies work. For example, Guerra's list of protective factors to prevent violence are usually the opposite of

the risks listed. Indeed, positive and secure relations with parents and peers can make youth "feel connected and committed to school and… at a lower risk of harming others…; [while]…conflict within the family is linked to almost all forms of violence" (Wilkins, et al., 2014, p. 4).

Beach (2017) stresses that rather than categorizations, what causal analysis needs most is data on process and connections. Also, Case (2007) critiques the underlying (and thus mostly hidden) process left behind by a quantitative risk-based surveys. Using the example of the Youth Justice System in England (p.91), he calls for complementary analysis sensitive to:

> …individual, social and temporal differences to age, gender, ethnicity, socio-economic status, local areas, country, type of offending (self-reported, officially reported, violent, property, serious) and cultural, political or historical context (p. 93) …. Some individuals get "lost in the statistical shuffle" (Bateman and Pitts 2005) and are denied appropriate intervention because a factor that may have influenced their behavior was not identified… (p.94).

Randomized Control Trials (RCTs)

Given the limitations of surveys and correlations in assessing causality, RCTs are considered the most rigorous causal analysis in the tradition of positivism. In EiE, development agencies upheld experimental designs as the "gold standard" for causal analysis, and quasi-experimental as the second best (BE2, 2012). RCTs evaluate the impact of an intervention, comparing it to results in a control group without the intervention. For example, Heller and her collaborators (Heller, et al., 2015) reviewed three RCTs that evaluated the impact of cognitive behavioral (CB) interventions in reducing violent responses by youth. Two of the interventions are within an education program called "Becoming a Man" and the others are at a juvenile detention center.

The RCTs found that CB interventions (making youth more aware of their thoughts and behavioral responses and slowing down to think before they act) had positive impact. They improved schooling outcomes (attendance, less dropout) and reduced indicators of violence (crime-related arrests and return rates to juvenile detention facilities). However, the only information we have for policy and programming is the original project or intervention. RCT

cannot explain further how and why these types of interventions work (Cartwright, 1995, 2007, 2012a, 2012b).

As expected with this analytical method, RCTs control for differences across contexts or populations, and purposefully ignore the causal mechanisms at higher or lower levels of analysis (the role of culture, institutions, neighborhoods, authority, etc.) In doing so, RCTs obviate the complex relations across social entities and the inhibiting or facilitating forces of context. This methodological approach does isolate a linear causal relation between intervention and a specific outcome but it leaves in a "black box" the explanation of how the change took place (Astbury & Leeuw, 2010; Imai, et al., 2011; Trampusch & Palier, 2016).

RCT researchers do not deny the existence of complex chain of causal interrelations, but purposefully control them out of the analysis (Marchal, et al., 2013). This inherent methodological element for causal analysis is precisely the biggest limitation of RCTs in helping to understand complex problems (Cartwright, 2009; Cartwright, 2011).

Case Studies: Process and Context

Understanding process and context is a comparative advantage of case study research. Process explains, for example, the sequence of change, the social entities involved, and the key social activities leading to a change (Burawoy, 1998; Khan & VanWynsberghe, 2008; Pouloit, 2014; Bennett & Checkel, 2015; Beach, 2017). Examining context enables researchers to better understand the forces for or against change and for whom change occurs or not (Pawson & Tilley, 2004; Pawson, 2013). Even single case studies can provide evidence of the necessary conditions (events, activities, forces) required to achieve an outcome.

> Examples of propositions about characteristics of single cases are *necessary condition propositions* and *sufficient condition propositions*. The presence (or absence) of such a condition can be observed in a single case. Process... statements are a subtype of necessary conditions statements that state that specific sequence of events are necessary for an outcome to occur. "The process outcome is present only if the sequence of events X1-X2-X3- and so forth is present." The single case study is

the appropriate strategy for the testing of this type of proposition (Hak & Dul, 2010, p. 2).

For example, Frattaroli and his team (2010) conducted a single qualitative case study to explain the effect of street-based outreach workers on youth violence prevention. It showed a complex process of causal forces for and against change: family, drug dealers, peer pressure, policy, and social services. In this complex context, the street-workers were a critical node. They became first responders to crises in the lives of youth; shared new opportunities and facilitated access to resources; and provided timely follow up and learning (p. 171).

Comparative case studies are also useful to build on explanatory theories of change from single cases. One instance of a comparative case studies on violence prevention was prepared by the Washington Office on Latin America (WOLA, 2011). The goal was to understand how urban violence was addressed in Rio de Janeiro, Brazil; Medellin, Colombia; Ciudad Juarez, Mexico; and Santa Tecla, El Salvador. The comparative study showed seemingly different violence contexts: long-neglected favelas in Rio, the combined narco-trafficking and gang violence in Medellin, the border town situational dynamics of Juarez, and the complex interconnection of post-conflict, drug transshipment, and disfranchised youth in Santa Tecla. However, the researchers found a common pattern of social activity in all four violent communities: disfranchised and marginalized groups. This can be generalized as a necessary causal condition leading to violence. In turn, a common response across settings was to reverse exclusion by "reincorporating and providing social services to marginalized communities" (2011, p.15). It is important to note that necessary conditions just show the potential of causality, they do not predict it.

> ...to identify that X is an important ("critical" or "crucial") condition that should be present in order to make Outcome Y possible [, t]he intended meaning is that Y is very unlikely to occur if X is absent or, in other words, that Y normally is not possible without the presence of X. This is a necessary condition hypothesis ("Y only if X"). The presence of the necessary condition means that the outcome has become possible, but it does not guarantee that the outcome will occur (which would imply that the condition is sufficient) (Hak & Dul, 2010, pp. 2-3).

Within Positivism, case studies are not considered a methodology to assess causality. However, a case study helps us unpack the social practices that lead to a desired outcome within the social system of interest and in context:

> …the ambition is to unpack explicitly the causal process that occurs in-between a cause (or set of causes) and an outcome and trace each of its constituent parts empirically. Here the goal is to dig deeper into how things work, but by tracing each part of the mechanism empirically using mechanistic evidence and in particular observing the empirical fingerprints left by the activities of entities in each part of the process… (Beach, 2017, p. 5).

Critical approaches: Underlying Forces and Interests

Critical theory emphasizes a reflective assessment of society, especially its structures and history. It seeks to uncover hidden processes underlying an event or condition. In sociology, its origins can be traced back to the neo-Marxist philosophy of the Frankfurt school (Bohman, 2005). It does not have a specific methodology but informs different methods of research. For complex social problems, such as violence, critical research can help uncover acts and social forces that are caused or reproduced by culture and institutional structures.

By problematizing and questioning the purpose of seemingly innocuous acts, critical research analyzes emerging signals of underlying motives. These signals include symbols, discourses, social activities, collective beliefs, and even silence (what is not said). Critical researchers have uncovered a range of hidden forces that contribute to violence, including inequity and social injustices, as well as unearned privileges and marginalization based on gender, ethnicity, social status, and sexual orientation (Allard & Small, 2013; Reynolds, 2014; Carrim, 2015; Shah, 2015). Unjust relations even include power differentials between researchers and those being studied. Hoffmann, for example, critiqued the unethical and unjust use of RCTs to study the impact of lowering pay for teachers in Africa (Hoffmann, 2018).

To understand complex causality in EiE, a researcher should also engage with the real, yet hidden, forces that influence adversity. These forces become actualized in behaviors, social activity, social norms, discourses, and in symbols within mainstream culture (Bourdieu,

1989; Foucault, 1980). For example, Novelli (2017) examines the role of education in countering violent extremism (CVE), a strategy embraced in the EiE field. He uncovers problematic relations between military, security and education objectives:

> …. moving beyond pacification and conformity, there is a strong literature on schooling as indoctrination, which notes its role in inciting violence from Nazi Germany, to Rwanda and to states like Eritrea today …. Furthermore, schooling has been and remains a site for recruiting for military projects – whether voluntary or forced – from US military-funded scholarships in lieu of enlistment and US military visits to schools, to non-sated armed actors recruiting child soldiers (p.838).

Critical analysis of violence and violence prevention surfaces inequities, injustices and ethical issues, which initially may not be apparent and are hidden across multiple social levels and entities (individuals, culture, institutions, etc.). For example, Shah (2015) questions the individual focus of resilience-based education response frameworks, especially for children in conflict and violence situations. He shows how trauma mitigation interventions in Gaza provide individual benefits to children and youth, such as a sense of wellbeing, positive peer relations and a sense of community. However, these benefits are short lived until the next attack occurs. He shows the causal powers of global institutions that contribute to maintaining the status quo of violence and armed conflict in Gaza (p.3). He calls for a "space for questioning and problematizing" the individualized resilience discourse, and to move from "short-term 'problem solving' approaches to longer-term structural improvements…" (p.6).

Critical research is at times accused of being a limited pragmatic offer with narrow concrete policy and program recommendations. However, highlighting power issues (unequitable privileges, exclusion, silenced voices) in critical research can contribute to more awareness and less naive policies and programming. For example, studies on conflict analysis conducted for UNICEF's Peacebuilding, Education and Advocacy (PBEA) proposed a model, the 4RS Framework, to address underlying power issues that inhibit sustained, positive, peace (Novelli, et al., 2017). These studies constitute an attempt to understand complexity in EiE and call analytical attention to issues of exclusion/inclusion, power/empowerment,

silence/voice and injustices/justices. In applying the 4Rs framework to analyze the relationship between education and peacebuilding, Novelli and his collaborators note:

> So what does this analytical framework mean in terms of examining the relationships between education and peacebuilding processes, whether in research projects or when designing or reviewing policy-related or programmatic work? Sustainable peacebuilding should not be conceptualized just as means "to" education (access) but also "in and through" education. It should consider how teaching and learning processes and outcomes reproduce certain (socioeconomic, cultural, and political) inequalities (Keddie 2012) and thus can stand in the way, or reinforce, processes of reconciliation and foster education's negative or positive, face. (Novelli et. al., 2017:31).

Critical researchers concur with some of the inherent operational limitations of critical analysis. However, they stress that the comparative advantage of this analytical approach is its ability to understand the hidden forces that impact social problems. Novelli and his colleagues note this is crucial when studying social change:

> Cutting through the different areas of focus are also divisions between orthodox and critical political economy approaches, which have very different normative assumptions on social change, social justice, and equity. In all approaches, there is an attempt to reduce the complexity of social reality, but the degree to which it is reduced is highly divergent. There is also a strong sense that while orthodox political economy is much better at providing simplified policy solutions…. - its recipes do not necessarily produce the intended outcomes. Conversely, critical political economy appears to be more effective at unpacking tensions, contradictions and inequalities in everyday life and in education systems – analysing what policies work or not and for whom – but appears less useful in offering easy policy solutions (Novelli et.al., 2014: 2).

Theory Based Research and Evaluations: Inferring Complex Causality

While critical analysis can uncover hidden and underlying motives and processes, theoretical guidance can help make sense of them. Theoretical frameworks can help us make sense of complex processes, large sets of empirical material, and, especially, underlying causal

mechanisms. Causal theories connect social activities (and their inputs and outputs) to outcomes (especially a chain of complex outcomes).

> In qualitative research, the use of theory is much more varied. The inquirer may generate a theory as the final outcome of a study and place it at the end of a project, such as in grounded theory. In other qualitative studies, it comes at the beginning and provides a lens that shapes what is looked at and the questions asked, such as in ethnographies or in advocacy research. In mixed methods research, researchers may both test theories and generate them. Moreover, mixed methods research may contain a theoretical lens, such as a focus on feminist, racial or class issues, that guides the entire study (Cresswell, 2014, p. 83).

Theories carry knowledge which was generated in real world situations. Merton calls them middle-range theories because they are generalizable abstractions but connected to their empirical evidence (Merton, 2007). Theory is not unconfirmed facts, but the packaging of knowledge into concepts, relations, boundaries and a strong underlying logic (Prowse, 2008, p. 14; Wu & Volker, 2009).

At middle-range level, abstracted concepts from empirical research have provided generalizable guidance, for example, in the empowerment of the most vulnerable (Freire, 1996) and on reconciliation and peace after horrendous national crimes (Staub, et al., 2005; Staub, 2013). These middle-range theories share knowledge of complex causal mechanisms such as dehumanization, empowerment, and reconciliation. In general, theoretical thinkers abstract empirical findings that can be carried to other contexts in the form of guiding theories. Future studies, in turn, confirm, adapt or falsify these theories based on new evidence.

Theory also supports different types of analysis. Deductive theoretical frameworks organize prior knowledge of a specific phenomenon to help researchers formulate their questions, collect data and analyze it. Inductive theories are grounded in specific research findings and conceptualized as categories or constructs and their proposed relations (Clarke, 2005; Charmaz, 2013). Abductive theories reconstruct the process (observable and underlying) to explain an outcome of interest: "what needed to have happened for this to occur?" (Pouloit, 2014; Bennett & Checkel, 2015; Beach, 2017).

Theory is a core component of research methods attempting to understand complex social problems, such as violence. At the broad theoretical level, for example, we could use Bourdieu (1986, 1989) to understand how culture creates social differences and justifies violence, or Foucault (1972, 1980) on the power of social, political and economic institutions to reinforce system-wide beliefs and behaviors through laws, policies and organizational cultures. Other aspects of symbolic, cultural and structural violence are also researched in the work of Galtung (1990) and Zizec (2008).

Lastly, to contribute to causal analysis, theory-based qualitative research enables qualitative researchers to go beyond description and narratives. At the outset of new research, theories regarding the phenomenon of interest guide the questions to be asked regarding a causal process, as well as the data to be collected and ways it should be analyzed (Reckwitz, 2002; Wu & Volker, 2009; Cresswell, 2014). This interplay between theory and empirical data is especially important to explain complex social problems with multiple interactions across social entities, and with observable and underlying causal mechanisms (Byrne, 2001, 2013).

Theory-based case studies, life stories and other phenomenological research methods can approach causal questions by detailing how and why a change process occurs. Such explanatory theories of change are known as causal or generative mechanisms (Cartwright, 2007; Archer, 2015; Beach, 2016). Causal mechanisms are best examined by realist methodologies. They focus on the interaction of multiple social entities in context, their social practices, and an ensemble of underlying causal powers leading to an outcome of interest. Critical realism is introduced next and expanded in Part B of my thesis as the ontological, epistemological and methodological lenses needed to help close some of the knowledge and research methods gaps in EiE.

Realist Approaches – Building Methodological Bridges for Complex Understanding

Through my literature review, so far, I have demonstrated some of our knowledge gaps in understanding the increasingly complex problems that concern EiE, such as violence and its different manifestations. These gaps are especially problematic in explaining causality. Realist research delves fully into a view of complex causality that explains the role of agents and social structures in a causal process, analyzes social activities with their perceived and

hidden processes, and explains the field forces that can inhibit or facilitate a causal process (Archer, et al., 1998; Pawson, 2013).

Realist research aims to identify the social activity that can trigger and bring together the causal powers of agents and structures for an outcome of interest to happen.

> …objects, facts and events can all be involved in causation…. But they are involved because of the powerful properties they contain. [Placing apples in a scale] …moved the scales, but only because they had a property that was capable of moving the scales. More precisely, it was the weight or mass that the causally active property, not the colour of the apples, nor their shape. These properties could be involved in other causal transactions, but not this one (Mumford & Anjum, 2011, p. 1).

Realist approaches interact with other research methods. For instance, case studies from a realist perspective can map the social entities involved in purposeful social practice (people, communities, organizations, etc.) and can trace how these social entities interact and contribute to the desired outcome (Pawson & Tilley, 2004; DeLanda, 2006; Cartwright, 2007; Archer, 2015).

For realists, social activity is the core unit analysis. By considering the patterns of social activity related to an outcome of interest, realist research opens the black box of change. Purposeful practices refer to social activity across agents and structures intended to achieve an outcome (Reckwitz, 2002). These are described and interpreted to infer the properties of social entities at play and their ensemble as a causal mechanism. Hedstrom and Ylikoski (2010) more clearly explain:

> …When a mechanism-based explanation opens the black box, it discloses its structure. It turns the black box into a transparent box and makes visible the participating entities and their properties, activities, and relations [that] produce the effect of interest (p. 51).

Realist explanations also include critical and theoretical approaches to precisely uncover underlying causal processes and reconstruct what needed to happen for an outcome to occur (Houston, 2005). Realists believe that social entities (individuals, culture, institutions) have causal properties or powers to make things happen. For example, the properties of

reflection, intention, decision making, and action exist in human agents, and when exercised or actualized they have causal power. Similarly, social structures such as institutions have the power to sustain a status-quo over time through formalized aims (policies), rules of behavior (laws), and resources (national budgets). Culture can also influence change by generating collective beliefs, values and behaviors for or against a desired social outcome.

Critical realism helps understand complex causal processes in EiE. For example, it provides frameworks to interact with multiple social entities (individuals, groups, institutions, culture) and to trace purposeful social practices that explain the role of education services in violence prevention. Its theory-empirical bridge provides a broader analytical range to explain violence prevention across multiple social levels and hidden and direct forces and processes, as well as the influence of context. For example, a doctoral thesis compared a systematic review (mostly RCTs) of interventions to protect chronic victims of violence with a realist approach (Grove, 2010). Both the systematic and the realist reviews showed crime reduction. However, the inclusion of process and context in the realist approach further explained the complex causal forces and mechanisms at play that protect a victim from repeated violence. These included the timing of the intervention, the motivation and emotions associated with the protection provided (confidence or fear), the perception of risks, and the flexibility or rigidity of the intervention (p.138).

While both an RCT and a realist evaluation can show the same impact of an intervention, a critical realist approach explains more of the complexity. Cartwright concurs with the narrow range explanation of RCTs:

> What is clear is that even a handful of RCTs by themselves will not do the job [of explaining causal powers]. In general, to support a capacity claim, a general understanding is needed of why the treatment should have the power to produce the outcome (Cartwright, 2011, p. 1401).

Evidence to explain causality or to replicate interventions

Perhaps the most ingrained consequence of a monopoly of positivism regarding causal studies (and other impact evaluation approaches) in international development is the final recommendations of such causal analysis. Typically, the recommendation is to replicate the intervention, rather than explain the causal process and mechanisms (how and why change

occurs). It is assumed that by controlling contextual factors during the impact evaluations, "the effect of the causes" findings can be generalized to other context through replication of the intervention. When projects are applied in different contexts and fail, researchers tend to first blame a lack of "fidelity": the implementation deviated from (was not "faithful" to) the original (Carroll, et al., 2007).

A different approach to generalization is to explain causality, both how and why the causal process occurs. Opening the black box of a program illuminates how it achieves its desired outcomes, through interactions in contexts, a process, and observable and underlying mechanisms, and how context can facilitate or hinder change. This more complex causal explanation can be generalized. With more complete explanations of change, each context can design its own programs and answer the question "how did this happen here?" (Pawson, 2013; Ramalingan, et al., 2008). Ramalingam gives a hypothetical example of how the focus of RCTs on the intervention, rather than on explaining the cause of change, distorts reality:

> …[T]he dependence of RCTs on statistics of averages makes them less suited to more complex, dynamic and interactive phenomena…. (Ramalingam, 2013, p. 112). [They are not] … suited to examining complicated development pathways involving multiple interacting, and non-linear causal factors…: …if you find that using flipcharts in classrooms raises tests scores in one experiment, does that mean that aid agencies should buy flipcharts for every school in the world? (p.113).

For Ramalingam the causal explanation is not the flipcharts (the intervention in a context) but why and how flipcharts had an impact: do they promote team work and participatory learning and how? Do they help children that learn visually to capture information and how? Do they democratize information and how? These explanations of why and how flipcharts help children learn can help other contexts with similar objectives (student learning) to design their own interventions for similar social practices in the classroom (teamwork, participation, visual learning, etc.). The interventions in other context may use their own more relevant technology and strategies (e.g., computers or cardboards) instead of flipcharts. Although this was a hypothetical example, the point is that complex social

problems need explanatory theories of change that can be transferable to other contexts, but not as off-the-shelf projects.

Lastly, when interventions are just replicated, we forgo the added value of having local agents participate in the needs assessment, planning and design of the interventions they are to implement for social change (Westley, et al., 2007; Weisbord & Janoff, 2010).

2.4 Conclusion: Methodological Gaps Limiting EiE Evidence

In conclusion, I have tried to show in Part A that the study of causality is not the monopoly of only one method or epistemological approach. The increasing complexity of EiE policies and practices requires a broader understanding of causality beyond the constant conjunctions of two events or variables, even when assessed with statistical rigor (Pawson, 2014). Replicating interventions based on their positive size-effects obviates contextual difference (Cartwright, 2009, 2011, 2012b). Experimental methodologies do substantiate a rigor in the quantitative proof of a causal effect (two factors or events moving in conjunction): when flipcharts (x) are used, test scores (y) go up. However, …" any form of experiments still does not tell us how… [the intervention] produces an effect, only that it does…(Beach, 2017, p. 3)." From the prior hypothetical example, it replicates "the flipcharts" but without the actual causal knowledge of how learning occurs.

My main argument in Part A was that relevant evidence for complex social problems is missing in international education development, and especially in the EiE field. This is due, in part, to the preferred causal research methods grounded in positivism, and mostly empiricist and quantitative.

The limited understanding of complexity in the available EiE evidence seems to be epistemological and methodological. International development institutions give priority to positivistic paradigms and especially to experimental methodologies; RCTs are seen as the 'gold standard.' However, these approaches to knowledge can answer only one-to-one causal questions, even if rigorously. Traditional RCTs do not explain *how*, for example, education practices can contribute to violence prevention, and why they can do so. Critical realist approaches attempt to close this gap (Bonell, et al., 2012; Marchal, et al., 2013).

Lastly, taking the example of violence, I showed that relevant understanding of the complexity of social problems requires a mix of methods. A researcher needs to know what

each method can do, and to combine them appropriately to address the type of research questions posed. To open the 'black boxes" of complex change, researchers need to engage theory and critical analysis in additional to empirical data. In general, relevant EiE methods should include analytical approaches to:

- **Address the causal contributions of diverse social entities.** Explore the complex interactions across multiple social entities that come together in patterns of social practices towards the outcome of interest: individuals, collectives (groups, communities) and structures (culture, institutions and systems).

- **Explain Process.** Analyze the process between interventions and desired outcomes, especially related to the purpose and patterns of social activity, its sequence and chronicity (start, turning point, new routes, end, etc.)

- **Infer Underlying Causal Forces.** Use theory to analyze the underlying forces that contribute to complex social problems that are hidden from direct observations but are nonetheless real and 'causally efficacious.'

- **Explain context.** Rather than control context, understand and explain the field forces that inhibit or facilitate the direction of interventions, process and outcome.

- **Critique.** Engage with the absence of social activity, knowledge, etc. and contradictions and subjectivities of complex social problems in each context and across contexts, addressing issues of justice, human rights and power differentials.

In conclusion, I have noted some key knowledge and causality research methods gaps in education in emergencies. I concentrated on one protracted social problem of EiE interest: violence. My aim was to show the gaps that are exposed by a limited use of research methods. A mix-methods approach can increase the explanatory potential of research in EiE (Annex A.1 summarizes a sample of a mix of research methods, each with its strengths and gaps).

My thesis, however, not only identifies the methodological gaps to study the complexity of protracted EiE problems. I also propose ways to address them. Part B of my thesis builds a conceptual framework to guide researchers interested in studying protracted EIE problems that require social change from adversity to wellbeing. For its application, I also propose a

combination of qualitative methods. Part C will test it in an empirical case of youth and school violence in El Salvador.

PART B. DEVELOPING A CONCEPTUAL FRAMEWORK FOR COMPLEX SOCIAL CHANGE

Overview of Part B

In Part A, I described the concerns of the evolving Education in Emergencies (EiE) field regarding the prevention of protracted social problems, such as conflict and violence. EiE aims at prevention and focuses on developing a better understanding of social change from adversity to wellbeing. I also showed that EiE prioritized positivistic research methods, and that these methods have not responded to the knowledge needs of an increasingly complex field. Knowledge gaps remain about complex causality. Due to their empiricist and quantitative overreliance, positivistic research does not study the complexity of a causal process, nor the multiple interaction across social entities (individuals, groups, institutions). Moreover, it cannot address underlying causal mechanisms, and it does not explain the influences of context.

In part B, I propose a response to the EiE knowledge gaps and the limited relevance of positivistic research methods. First, I develop a conceptual framework of complex social change from adversity to wellbeing called the Transformative Resilience (T-RES) Framework. It is grounded in findings from resilience studies and integrated into the philosophy of science of Roy Bhaskar's Critical Realism.   The T-RES Framework can guide EiE researchers to ask relevant questions about the process of complex social change. Second, I propose an analytical method, which is grounded in abductive thinking, to operationalize the T-RES Framework for research. This theoretical framework, accompanied by more relevant research methods, seeks to address the complexity gaps of positivism.

Part B is organized in two chapters. Chapter 3 introduces and builds the T-RES Framework, starting from the tenets of Roy Bhaskar's Critical Realism and 50 years of resilience studies. Chapter 4 proposes a methodological approach to collect and analyze qualitative data for complex causal analysis through abductive reasoning.

CHAPTER 3. THE TRANSFORMATIVE RESILIENCE FRAMEWORK

Violence prevention—as an example of a protracted EiE problem—is complex and requires an understanding of social transformations. Such knowledge of social change in different contexts of adversity exists. For example, more than 50 years of research in the field of resilience has provided evidence on how individuals and communities recover, continue to perform and change in the face of adversity (Masten, 2001; Vernon, 2004; Ungar, 2008). More broadly, the philosophy of science of Roy Bhaskar's Critical Realism provides an ontological and epistemological foundation to explain social change from adversity to wellbeing (Bhaskar, 1975, 1993, 2012). To begin closing the EiE knowledge gaps introduced in Part A, this chapter designs a framework to trace core processes of complex social change from adversity to wellbeing. I call it the Transformative Resilience (T-RES) Framework.

To make the case for a transformative view of resilience, I first present key findings from 50 years of resilience studies. These show a process of positive change in the face of adversity across individuals, communities and organizations (Maton, 2000, 2008a, 2008b). I also respond to critiques of resilience as solely individualistic. I show that evidence of resilience exists across a social ecology, and that it does not only refer to individuals coping alone with adversity. Yet, resilience studies alone cannot provide the underlying logic on social change for the T-RES Framework. Integrating Bhaskar's Critical Realism, thus, provides the ontological and epistemological foundation to explain social transformations.

In chapter 3, I first explain my analysis to integrate resilience and Bhaskar's Critical Realism as the underlying logic of T-RES Framework. Second, I detailed the theoretical construction of the T-RES framework.

3.1 The Evolution of Resilience Thinking and Findings

There are many definitions of resilience, but in general it explains the capacity of individuals, communities and systems to recover, continue to perform, and even positively change in adverse situations (Reyes, 2013). Resilience studies have documented the process of achieving positive outcomes amid adversity (Skogstad, 2004; Luthar, 2006; Masten & Obradovic, 2006; Ungar, 2008; Reyes, 2013; Wright, et al., 2013; Zimmerman, et al., 2013).

Yet the resilience phenomenon has been questioned. Critics say 'resilience' (i) is a buzzword that is used without real content, especially by neo-liberal politicians; (ii) implies just a process of recovery to a status quo, without real social change; (iii) is an individualistic approach which obviates the responsibility of social structures and services; and (iv) disregards issues of power and social justice (Davoudi, 2012; Friedli, 2012; Shaw, 2012; Joseph, 2013; Zebrowsky, 2013; DeVerteuil & Golbchikov, 2016).

More than 50 years of research on the field of resilience has addressed and resolved the above criticisms. Reviewing this evolution within the field can point to its usefulness in understanding change from adversity to wellbeing. In a prior work, I detailed the four evolutionary waves of resilience research (Reyes, 2014). Here, I will review this evolution to directly reflect on the external critique of resilience. Heeding and responding to critics can help strengthen the consistency and arguments of resilience for social transformation. I engage next with each of the above-listed critiques.

Political Misuse of Resilience

Some critical analysts are concerned that 'resilience' is a buzzword that aligns the humanitarian and development systems with a "neo-liberal" doctrine. Especially in fragile and conflict affected countries, critiques argue that 'resilience' places the responsibility of protection, conflict resolution and development on individuals alone—or solely at the level of fragile countries (Joseph, 2013; Zebrowsky, 2013). Some of these critics dismiss resilience theory altogether:

> Resilient populations as such must be regarded as a particular enframing of life which arose as the correlate of neo-liberal governance. As an object constituted through the exercise of specific practices of governance, resilient populations cannot be said to properly 'exist' ontologically. Nor could they be discovered. They must instead be understood as the product of more obscure ontopolitical processes (Zebrowsky, 2013, p. 169).

The conclusion that the phenomenon of resilience does not exist, as proposed by Zebrowsky, can be disproven. Resilience evidence shows a process of change amid adversity at the individual, interpersonal, community and institutional levels. There is ample evidence of people and communities that have recovered from crisis, that

have continued to perform in the face of adversity, and that have transformed institutions and cultures that oppressed them (Ungar & Liebenberg, 2005; Ungar, 2008; Maton, 2008a; Wright, et al., 2013). In a critical analysis study (CAS) conducted, in preparation for this thesis, I cited concrete empirical studies of resilience across the world, including Afghanistan, Brazil, Honduras, Colombia, South Africa, Turkey, Uganda, and the United States (Reyes, 2014, pp. 51-61)

Research across disciplines also provides evidence of resilience processes. For example, neuro-biology shows that brain chemistry changes due to cognitions and behaviors related to recovery, functioning and strengths amid difficult life situations (McEwen, 2012; Graham, 2013). Psychology studies have identified individual assets that help people recover and continue to function in the face of adversity (Rutter, 1979; Ungar, 2004). Social psychology points to supportive relations (families and communities) that help vulnerable individuals navigate adversity and even negotiate relevant services (Ungar & Liebenberg, 2005, 2009, 2011). Community psychology studies provide evidence that empowering individuals and bettering communities can lead to organized demands for societal change (Freire, 1996, 2001; Maton, 2000, 2008a, 2008b). Education research documented that caring and protective relations between school personnel and at-risk learners support their engagement in school and educational attainment (Benard, 2004; Gizir & Aydin, 2009). Resilience studies in the context of violent conflicts and war have uncovered how and why individuals and communities recover and continue to function in such extreme living situations (Fernando & Ferrari, 2013; Staub, 2013; Karadzhov, 2015).

Reviewing the full body of resilience studies, and its evolution, points to its social transformative potential.

Resilience to Return to Status Quo vs. Social Transformation

An initial criticism of resilience—especially from those more familiar with the earlier ecological strand—is the focus on recovery without changing the context of adversity prior to a crisis (Davoudi, 2012). For these critics, terms from ecological resilience such as 'equilibrium' and 'adaptability' imply returning to a status quo that created the adversity in the first place (Shaw, 2012, p. 309). Mel Bartley, cited by Friedli (2012), infers the inequities even "resilient" individuals face from

unchanged social situations:

> Even the most resilient child from a poverty-stricken area… will never do as
> well in life as a more ordinary child from a wealthy background. To see this
> has to make us ask, well, what would that resilient child have been able to
> do, and to contribute to the community and the economy, if he or she had
> never had to overcome disadvantage? (p. 22).

It is true that 50 years ago, resilience thinking was ignited by an interest in post-shock recovery, especially in the fields of ecology and human development.[10] In the 1970s, the aim was to understand how the environment and people, respectively, recover from shocks. In the ecological sciences, the "capacity of ecological systems to return to their original state after disturbances" was called resilience, borrowing from engineering and malleable materials that could return to their original form (Holling, 1973). In human development, studies of children and youth exposed to risks showed that a percentage of them did not experience psychological and psychiatric pathologies and instead had better than expected outcomes (Garmezy, 1974; Anthony, 1974; Rutter, 1979).

However, research interest and findings did not remain at the level of recovery. Socio-ecological research in resilience noted that "recovery" and "equilibrium" were but one aspect of resilience theory (Walker, et al., 2004). Resilience research continued to evolve to include system change. This can happen because accumulative threats can cause or caused irreparable damage and staying in the same system is "unattainable" (ibid.). When "thresholds" of environmental threats are reached, and coping is no longer possible, the aim of a resilience process is to change the status quo. Moreover, some social science researchers have also studied resilience as "resistance" (Gunderson & Holling, 2002). Communities can resist marginalization (Maton, 2008a; Block, 2009), and an emerging culture of peace can resist violence (Barak, 2003, 2006).

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[10] I am using the term "ecological" resilience to differentiate it more clearly from "human development" resilience. This is needed because both fields have evolved to a more integrative definition where human systems interact with their environment, and vice-versa. As such environmental ecology is now referred as "socio-ecology" and human development system are studied within a "social ecology" (Bronfenbrenner, 1979)).

At times society or group may find themselves trapped in an undesirable basin… At some point, it may prove necessary to configure an entirely new stability landscape—one defined by new state variables, or the old state variables supplemented by new ones. …. The capacity to create such a new stability landscape is known as transformability—the capacity to create untried beginning from which to evolve a new way of living when existing ecological, economic or social structures become untenable (Walker, et al., 2004, p. 9).

In human development, researchers identified at least three different outcomes of a resilience process: recovery, functioning and improvement. For example, Masten and Obradovic (2008) demonstrated three patterns of adaptation in the process of resilience: (i) regaining effective or normal functioning (recovery), (ii) sustaining competence (functioning); and/or (iii) achieving better than expected outcomes (transformation). Masten and Obradovic define resilience as:

 …(i) achieving better than expected outcomes in high risk groups of people, sometimes referred as overcoming the odds against healthy development; (ii) sustaining competence or maintaining effective functioning under highly adverse conditions, sometimes referred as stress resistance; and (iii) regaining or attaining effective or normal functioning following a period of exposure to traumatic experiences or conditions of overwhelming adversity" (ibid., p. 2).

Resilience is problematic if it only implies returning to a "normal" state—especially to a state of social inequities, poverty and oppression. These are underlying sources of adversity such as violence. However, resilience is not just about adapting and recovering back to a "normal" status-quo. It also can account for more structural change and transformation (Gunderson & Holling, 2002; Walker, et al., 2004; Berkes & Ross, 2013; Maton, 2008a; Ungar, 2018).

Resilience Within a Social Ecology

Another criticism of resilience is its potential use to justify neo-liberal ideas of individualism (Joseph, 2013; Zebrowsky, 2013). Resilience is seen as a discourse that limits social services to those most in need. The focus of resilience on individual assets and strengths, its critics contest, promotes self-reliance and

justifies the disengagement of the state (Shaw, 2012, p. 311). Resilience as a political discourse is used to escape responsibility (Haldrup & Rosen, 2013, p. 139).

However, today the evolved field of resilience has de-centered the individual and includes institutional and state actors, making them responsible for providing services that create a resilience pathway for vulnerable communities. Research has shown that it is a process embedded within a social ecology: people, communities, organizations, institutions, and culture. Also, as a process of recovery, functioning and improvement, it requires change across these different entities in a social ecology.

In ecology, the process of multi-level change was called 'Panarchy' (Gunderson & Holling, 2002). Socio-ecological change amid shocks comes from interactions between the environment and a multiplicity of other associated factors related to individuals, communities, domestic and international politics, and economic laws and policies. This change process is not linear, but occurs through complex cycles of growth and conservation (or plateau), and subsequently system collapse and reorganization.

> Ecological and social-ecology systems form nested sets of adaptive cycles. The larger, slower cycles [growth and conservation] generally constrain the smaller, faster ones [collapse and re-organization] and maintain system integrity, but, during the … [collapse and re-organization] phases, critical cross-scale interactions can operate, particularly "Revolt" connections, in which … [a collapse] phase… on one level triggers a crisis one level up [e.g., collective agents triggering institutional crisis]. [It can also be the case that] … the collapse phase of a cycle is organized by a higher-level [re-organization] phase (Gotts, 2007, p. 24).

In human development (psychology, child development, education, etc.), the outdated view of resilience as individual coping has also shifted. Ungar (2008, p. 225) situated the resilience process clearly within a 'social ecology' characterized by the interactions between individuals and communities facing adversity and the social services provided by institutions. Ungar and Liebenberg (2005,2009) studied populations at risk in more than 12 countries showing: (i) the process by which people at risk "navigate" their way to resources

that sustain well-being; (ii) the capacity of institutions to "provide" resources needed and demanded by those at risk; and (iii) the process by which individuals, their families and communities in context of adversity "access" available resources and social services and can "negotiate" that these be "relevant and culturally meaningful to them" (2008, p. 225) . Furthermore, Ungar stressed the importance of culture to understand how different contexts define their own desirable outcomes, as well as meaningful protective and promotive services.[11]

Evolving resilience research is not about human coping in times of crises, but on building the assets, social interactions and structures to continue to move social ecologies and systems towards their wellbeing (Ungar, 2011a). Resilience thinking has placed responsibility on institutional structures to protect and generate human and social assets, especially for those most vulnerable.

Social Justice in the Face of Risks and Assets

Resilience studies showed that risks co-exist with assets—internal strengths and external opportunities (Masten, 2001; Luthar, 2006; Maton, 2000). Usually hidden in adverse situations, assets contribute to the recovery, functioning and transformation of individuals, communities and organizations. However, since resilience "presupposes exposure to significant risks" (Luthar, 2006, p. 752), the focus on assets has been critiqued. Critics argue that those in privileged positions have defined resilience for their own benefit and against protection of the most vulnerable and needed social changes (Shaw, 2012).

Yet, studying individual strengths and opportunities associated with positive outcomes in the context of adversity is central to resilience-based research. For example, Masten summarized a "short list" of internal and external assets associated with resilience in children and youth. This included individual aspects such as intelligence, self-control, beliefs and values, and also aspects of community settings such as effective schools and connection to prosocial organizations (2006, p. 7). Benard (2004) in her studies in education settings also listed more than 100 protective factors as personal strengths (social competence,

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[11]"Protective" processes interact with risks to mitigate them and contribute to coping with adversity; "promotive" processes help achieve a specific outcome and are beneficial in adversity and non-adversity contexts.

problem solving, autonomy, future purpose, etc.) and family and school contributions to resilience (caring and support, high expectations, participation).

Importantly, the study of resilience and assets has more recently included critical analysis. Critical resilience researchers, for example, have studied maladaptive coping, such as a young child working to support a poor family's income. Also, some studies have documented that at-risk youth seek self-esteem and peer support, documented as resilience assets, by joining gangs or combatant groups when there are no other alternatives (Sobel & Osoba, 2009). Coping that increases or adds risks and vulnerabilities is not considered a resilience pathway.

Resilience, studied critically, can uncover inequitable pathways across at-risk groups to achieve social outcomes during crises (Ungar, 2004; Mertens, 2012). Unjust social relations can prevent the actualization of strengths and opportunities in vulnerable and marginalized individuals and communities (Kirmayer, et al., 2011; Sue, 2014). Their voices can be silenced, their capacity to decide can be limited, and information can be manipulated to prevent awareness and conscientization (Mertens, 2009). Provision of social services during crises, without consideration of the obstacles faced by the most vulnerable, is not a resilience-informed approach. Schools may be available but inaccessible to vulnerable groups because of distance, inflexible schedules, or cultural exclusion (Ungar, 2008).

By studying resilience as a process, two types of complementary pathways were uncovered: "protective" and "promotive" processes (Masten & Obradovic, 2008; Zimmerman, et al., 2013). For example, in contexts of violence, resilience research identified processes to protect from loss, hurt, destruction, and death (Klasen, et al., 2010; Eggerman & Panter-Brick, 2010; Betancourt, et al., 2010). It also evidenced processes that promoted ongoing development, functioning, and improvement. This included the availability and accessibility of resources, services and activities that would promote desirable outcomes such as school attendance, learning, psycho-social wellbeing, and functional relationships (Ungar & Liebenberg, 2005; Green, et al., 2008). To address injustice, resilience must include strategies that are protective (of risks) and promotive (of future development) (Luthar & Zelazo, 2003).

Mertens argues for an "axiological" component in resilience research (and social scientific analysis in general). Research must account for the inclusion of "human rights and social justice" (Mertens, 2009; Mertens, 2012). This critical component in resilience research brings forth unjust processes to be addressed in policy and practice. The resilience studies by Mertens (2009) have focused on the way marginalized communities (e.g., deaf students; lesbian, gay, bisexual and transgendered groups; and indigenous minorities) can both be protected from risks and empowered and promoted to achieve positive life and social outcomes (Mertens, 2011). This requires a critical stance and agency (Carrim, 2015).

Maton (2005) further traces "social justice" as a component of resilience by engaging not only at the level of protection of individuals and communities, but by addressing the transformation of large-scale societal and institutional structures:

> In summary, deeply embedded features of setting, community, and societal environments influence critical risk and protective processes, can nullify person-focused 'inoculation' programs, make it difficult to sustain and disseminate promising intervention approaches, and prevent the large-scale mobilization of resources necessary for making a substantial difference. In order to enhance the resilience of children and families, we need to focus on and transform social environments (p. 121).

The strengths-based approach of resilience is not incompatible with social justice. For Freire (1996), the pathway towards social justice of those oppressed is strengths-based:

> True generosity consists precisely in fighting to destroy the causes which nourish false generosity. False charity constraints the fearful and subdued, the 'rejects of life,' to extern their trembling hands. True generosity lies in striving so these hands— whether of individuals or of entire peoples—need be extended less and less in supplication, so that more and more they become human hands with work and, working, transform the world (1996, p. 27).

In summary, resilience researchers have engaged with elements of social justice, exclusion and other risks in dialectical relation with a resilience process characterized by internal and external assets in the face of adversity. These have been found at the individual, relational and socio-cultural levels (Peterson & Seligman, 2004; McKnight & Block, 2012; Reyes, et al.,

2014; Subhashini & Reyes, 2019). Resilience assets are the building blocks of how social ecologies achieve desirable outcomes in difficult situations. However, adversity and vulnerability also require attention on equity and social justice. A protective and promotive resilience process must lead to betterment and improvement for society's most vulnerable.

3.2 The Transformative Potential of Resilience: A Process of Chain-Reaction Change

Today, resilience is not the study of "resilient" individuals but the study of a "dynamic developmental process" of change from adversity to wellbeing (Luthar, et al., 2000, p. 5). The definition of resilience as a "process" rather than as a "trait" was an important shift (Luthar, 2006; Wright, et al., 2013; Karadzhov, 2015). For example, in the field of child development, researchers debated and agreed that they did not study a 'resilient' child but uncovered the process by which this child achieves a desirable outcome amid adverse life situations (Wright, et al., 2013, pp. 22-23). Resilience as a process no longer just listed risks and assets identified within a social entity. It explained *how* a wellbeing outcome was achieved: learning, mental health, no involvement in gangs, etc. Process implied describing how and why, for example, goals or outcomes were achieved; what social activities took place; who interacted; and which forces in each context of adversity facilitated or inhibited change and for whom?

The study of resilience as a process showed that resilience was a transformative change; it occurs as chain-reaction change across people (individuals, groups, communities) and structures (institutions, culture, systems). Maton provides the most compelling evidence (2000, 2005, 2008a, 2008b). His empirical studies around the world (including Afghanistan, Brazil and the United States) provided evidence that resilience pathways contributed to positive outcomes in individuals and communities, as agents of change, and these in turn contribute to changed social structures, including laws, policies and social services. Individual empowerment led to participation in community betterment activities; improved communities facilitated organization and advocacy; and political resistance from agents demanded and influenced changes in institutional practices, policies and laws (Maton, 2000).

For example, in his study of the Revolutionary Association of the Women of Afghanistan (RAWA), Maton illustrated the transformative potential of personal empowerment, organized commitment to social change, and changes in cultural values and beliefs; these

ultimately led to pressures for political reforms (Maton, 2008a). RAWA was formed in 1977 to advocate for women rights. This was during the Taliban period when RAWA not only faced cultural traditions that oppressed women, but a political regime that forcefully and violently enforced them. Despite this structural oppression, RAWA provided underground social services for literacy and income generation for women, and schooling for girls.

RAWA's first aim was to raise awareness at the individual level, as expressed by one of its members:

> When we live in a family with men we should…have our rights as human beings and women. In some families, the value of women for men is like their shoes, but we…know that women are human beings and have their rights and should live equally (ibid., p.10).

For RAWA, this individual level outcome (awareness and empowerment) is the foundation for collective action at the community. Second, through community organization, a collective of individuals can define common objectives, plan strategies and agree on roles across its organized members. For RAWA the process of community organization led to an emerging collective purpose and brought 'empowered' agents together.

Maton (2008a) noted a two-way relationship between the power of the process of individual empowerment and the process of organization through a collective purpose:

> Mainly it is our political standpoints and goals that keep members together. We all struggle for the same cause. Unity, friendship, sisterhood, love and camaraderie occur on top of political unity (p.11). [Another member said]: …my affiliation with RAWA changed the mentality of my family…They visited and saw the freedom, the education, and what I had learned. They changed and now my brother distributes *Payam-e Zan* [RAWA's political magazine] (ibid., p.14).

Subsequently, individual empowerment and community organization led to political advocacy. RAWA today is a strong voice for advocacy and political influence, with more than 2,000 active women members and an equal number of men who have a "political voice through its website, political magazine, international speaking tours, political protests and conferences…" (Maton, 2008a, p. 7). This chain-reaction change empowers agents,

promotes collective efforts for community betterment, and organizes a collective of empowered agents to demand and receive social services (Jenson & Fraser, 2006) and influence structural change. (Maton, 2000; Peters, et al., 2005; Jenson & Fraser, 2006; Ungar, 2008; Block, 2009; Reyes, et al., 2014)

Conclusion: The Transformative Potential of Resilience

By answering critics, this section has argued for a transformative view of resilience. This is better understood by examining the full body of research in the resilience field, especially in human development.

Some of the foundational findings of resilience studies are also mirrored by other social theorists and researchers. For example, Bourdieu (1986) alludes to the conception of assets in his definition of social capital, expressed as "…the aggregate of the actual or potential resources which are linked to the possession of a durable network of institutionalized relations of mutual acquaintance or recognition -- or in other words to membership in a group (ibid., p.247)." Coleman (1988) rejects the extreme individualistic premises of change and claims collective and cultural mechanisms such as "obligations and expectations", "information channels" and "social norms". McKnight and Block (2012) claim that individual, collective and organized resilience has emerged as foundational mechanisms for social change. Freire (1996, 2001), as previously noted, emphasizes empowerment of the most vulnerable as a *sine qua non* condition for social change.

In conclusion, resilience is not about individual coping. The impetus to study resilience 50 years ago did begin from observations of individual change. Today, however, after half a century of studies in multiple contexts, resilience provides empirical grounding to a process of recovery, performance and change from adversity to wellbeing. This resilience process provides evidence of chain-reaction change across individuals, communities and organizations.

Yet, the empirical findings of resilience alone cannot provide a substantial logic of the structural change required for social wellbeing. Resilience findings should be integrated into a rigorously elaborated ontology of social change. In the following section, I argue that Roy Bhaskar's critical realist philosophy of science provides this.

3.3 Bhaskar's Emancipatory Critical Realism: From Social Adversity to Wellbeing

To build a theory of Transformative Resilience, first an underlying ontological and epistemological logic is needed. I found it in Roy Bhaskar's Critical Realism (CR) and its focus on the ontology of social emancipation and the epistemological postulates on causality (change) in social systems. [12]

Critical Realism is not a uniform philosophy. Most variants of CR agree on a complex social causality. However, Bhaskar's variant of critical realism is the only one centered on social transformation[13] from adversity to wellbeing (Bhaskar, 1993, 2002a). This normative view is criticized by others critical realists. Critics claim normative positions (i.e., research proposing a social value, such as the direction of social change) is not warranted in 'objective' scientific endeavors (Overman, 1988; Cruickshank, 2004; Hammersley, 2009; Pawson, 2013, 2016). However, Bhaskar defends his social change postulates as "philosophical underlaboring" (Archer, et al., 1998, p. 6). This means that his meta-theory is not a substitute for substantive research but provides ontological and epistemological guidance for scientific research interested in social emancipation.[14]

> …Bhaskar is able to conclude that 'one is…qua philosopher of science, at perfect liberty to criticize the practice of any science'…. Nothing in the foregoing should be taken to imply that philosophy can do the actual work of science for it. …. [S]cience can successfully uncover structures and mechanisms that govern some identified phenomenon of interest, philosophy cannot do the work of uncovering. This is the task of science (ibid.).

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[12] In 1979, Bhaskar contributes to the basic tenants of critical realism in the physical sciences through his book, *A Realist Theory of Science*, and in 1979, for the human and social sciences though the *Possibility of Naturalism*. These writings were followed in 1993 by *Dialectic: the Pulse of Freedom* which introduced the dialectics of critical realism towards an emancipation system. In 2002, Bhaskar published three books (*Reflections on Metareality*, *The Philosophy of Metareality*, and *From Science to Emancipation*) introducing the Meta-Reality complements to critical realism and providing the foundation for 'how" agents engage in the process of self and social transformation and the real powers and mechanisms that support this process.

[13] Transformation and emancipation are used interchangeably through the literature. However, I prefer to use the term "transformation" to nuance the needed multilevel changes that must occur within a transformed system. Emancipation is at times used to refer to external emancipations of traditionally oppressed groups. Emancipation can be one form of transformation, but there are others.

[14] Bhaskar called complex social change 'emancipation' (1989b: vii), and I refer of it as "transformation".

Bhaskar's ontological and epistemological tenets for social change are presented across three stages of philosophical development: Basic Critical Realism, Dialectical Critical Realism and Meta-Reality. Basic CR is the stage most in common with other CR positions, as it explains complex causality in social systems. Dialectical CR and Metareality are Bhaskar's CR theoretical contributions to understanding transformative social change. Next, I explain these three phases of Bhaskar's CR. I extend on Basic CR as it provides the grounding for complex causality.

Basic Critical Realism: Social Entities, Properties, and Causal Powers

All critical realists share the ontological belief of a "real" social world independent of our capacity to observe it or not. It comprises diverse social entities: individuals, communities, culture, institutions. The range of social entities are traditionally categorized (and studied) as "agents" and "structures". Agents refers to human beings (individuals and collectives) and structures to other social entities that provide "structure" to social life: culture, organizations, institutions (and within these laws, policies, etc.).

> A key difference between the physical sciences…and the social sciences is that human agents are reflective—that is, they contemplate, anticipate, and can work to change their social and material environments and they have long-term intentions as well as immediate desires or wants. …. [S]tructures are social as well as material and …agents and structures are mutually constitutive. In other words, social and material environments both socialize and constrain individuals and enable them to take actions intelligible to others, including actions that intentionally change social norms and materials circumstances (George & Bennett, 2005, p. 128).

Each entity (agents or structures) possesses specific natural properties and the power to make things happen given its social type: individuals can reflect, groups can set common aims and organize, cultures can generate expected behaviors, and institutions can sustain rules over time (as in laws). Causal powers of social entities are the foundation of a Realist understanding of causality. Causal powers are a "natural necessity," that is, they exist by nature of the ontological properties of social entities, i.e., being an individual or being an

institution (Harre & Madden, 1975; Bhaskar, 1998; Sawyer, 2000; DeLanda, 2006; Pawson, 2013).[15]

> Fundamental here are the categories of "power" and "ability" possessed by something in virtue of its 'nature'. Specifically they defend the position that is the 'ineliminable but non-mysterious powers and abilities of particular things … [that] are the ontological 'ties that bind' causes and effects together and are what the conceptual necessity of causal statements reflects (Bhaskar & Lawson, 1998, p. 8).

Critical realists claim we can study the properties and causal powers of diverse social entities to understand how the social world works. The main unit of analysis for critical realists is social activity (Engestrom, et al., 1999). It is through social interactions that social entities come together and share their causal powers towards a desired outcome (Echabe & Castro, 1993; Engestrom, et al., 1999; Herndl & Nahrworld, 2000; Reckwitz, 2002; Reay, et al., 2013).

Causal powers exist (i.e., are real) even when not actualized (i.e., manifested) in social activity. Social activity, however, manifests them as they interact towards an outcome. A mundane example of causal powers and their actualization in social activity is 'water.' Because of its natural properties water has the causal power of "wetness." However, your clothes will not become wet until water is poured on them. Social activity triggers and actualizes the causal powers of a social entity: someone or something drops water on you. There are other examples. Culture has the properties of values formation, collective beliefs, and expectations of behaviors. It has the power to create and normalize collective beliefs and prioritize the values and behaviors of one group against the other (Archer, 1988; Archer & Elder-Vass, 2012; Derex, et al., 2013).

Social activity as a unit of analysis provides an entry point into complex causality. Social interactions between agents and structures trigger their causal powers, which come together as complex causes of a social outcome. By analyzing social interactions one can

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[15] Critical realism in general advocates for uncovering and understanding the causal mechanisms in both physical and human systems. As will be discussed, these can exist independent of our sensorial perception or our heuristic interpretation and cognitive construction of them.

understand: (i) purpose, (ii) complex causal patterns; (iii) how participating social entities shared their causal powers; and (iv) why they were able to do so. For example, in trying to understand violence prevention activities in schools, one may ask: Is there a common purpose for non-violence among all entities? How do they come together and in which activities to prevent violence? Are all the social entities that can contribute to non-violence in schools participating? What does each contribute? What are the interactions between school actors and the policies and expected behaviors of schools, or of the education system? Are there any hidden interests or absent resources? If these activities and interactions led to change, why was this possible?

Through social interactions, structures can limit agency. Social structures are also social entities with causal powers. Institutions, because of their properties (laws, policies or budgets), have the power to sustain long-term processes; dominant cultures (through their collective beliefs, values, and norms) have the power to impose, reward or condone behaviors. These powers of social structures (as social entities) can inhibit the causal powers of agents (as individual or collective social entities). For example, individual empowerment can be inhibited by institutional practices denying expression, values, or behaviors of certain groups because of gender, ethnicity, sexual orientation, etc. (Mertens, 2012; Sue, 2014) (Sue, 2014). However, structures cannot act alone; they are constructed, activated, and changed by agents—existing or deceased (Archer, 1995).

Social entities and causal powers are basic ontological foundations across critical realists. Annex B.1 presents additional explanation of causal powers by type of social entity. I turn, now, to the basic epistemological premise in Basic CR: understanding the three levels of reality.

Critical Realism Epistemological Premises: Real, Actual and Empirical

A generally accepted epistemological premise in CR is that some causal forces in social activity can be empirically observed, but others, albeit real, are hidden from our human perception. Some social entities and their interactions are not easily observable. For example, we may not be able to 'see' individuals' commitment or hope, or communities' shared beliefs and values, or institutions sustaining the status quo. Yet, these causal powers are all real and contribute to a causal process (Harre & Madden, 1975; Bhaskar, 1975). Basic

CR epistemology proposes that we can know both observable and non-observable social entities and their causal powers (Sawyer, 2000; Mumford & Anjum, 2011; Vandenberghe, 2014). To do so, Basic CRs refer to three stratified levels of reality: empirical, actual and real (Bhaskar, 1975; Bhaskar, 1993; Elder-Vass, 2004)

Empirical reality is the most restricted as it shows only those events, entities and relations that can be perceived through the senses. Empiricists work at this level. Actual or actualized reality is manifested through social activity. It focuses on the interactions across social entities and their ensemble of observable and non-observable causal powers towards a desired social outcome. The 'real level' refers to the untriggered properties and causal powers of social entities. This level is inherently unobservable but can be studied and known. Theory-based and critical research are some relevant approaches to infer or uncover unobservable but real social forces (Mertens, 2009; Vandenberghe, 2014).

Basic CR combines a realist ontology with a socially constructed epistemology to study the above three manifestations of reality. Bhaskar refers to this as the 'intransitive' (real, natural necessity and generalizable) and "transitive" (nonpredictive, constantly changing, and contextual) components of reality and knowledge (Bhaskar, 1975; Archer, et al., 1998). Empirical (but not empiricist) research is also possible,[16] as non-observable properties and causal powers leave behind empirical traces of their existence and influence (Pouloit, 2014; Beach, 2016). Bhaskar CR refers to these empirical traces as "demi-realities" (Lawson, 1998). We may not directly observe a person's empowerment, but we can trace the empirical material left behind when a person behaves with "empowerment": we can *listen* to their words of confidence; we can *see* them implement their self-planned activities; we *hear* them advise others.

> Although the social world is open, dynamic and changing, certain mechanisms may…
> be reproduced continuously and come to be (occasionally) apparent in their effects
> at the level of actual phenomena, giving rise to rough and ready generalities or

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[16] Empirical research allows us to test hypothesis in the real world, but it does not have to be 'empiricist' (that is only based on objects and events that are observable to the "naked eye", and thus quantifiable).

partial regularities, holding to such a degree that prima facie an explanation is called for (ibid., p.148).

Researchers can study the three CR levels of reality and their observable and non-observable causal processes and powers through a combination of empirical data and theorizing (George & Bennett, 2005). Chapter 4 covers methodology and will explain some approaches to study complex causality through the iteration of theory (prior knowledge, frameworks, middle ground theories) with in-depth empirical analysis of purposeful patterns of social activity to trace social entities and their causal powers. Here, figure 3.1 below schematizes the epistemological premises of CR.

Figure 3.1 Observable and Non-Observable Reality of the Social World: Data Analysis and Theorizing Causality
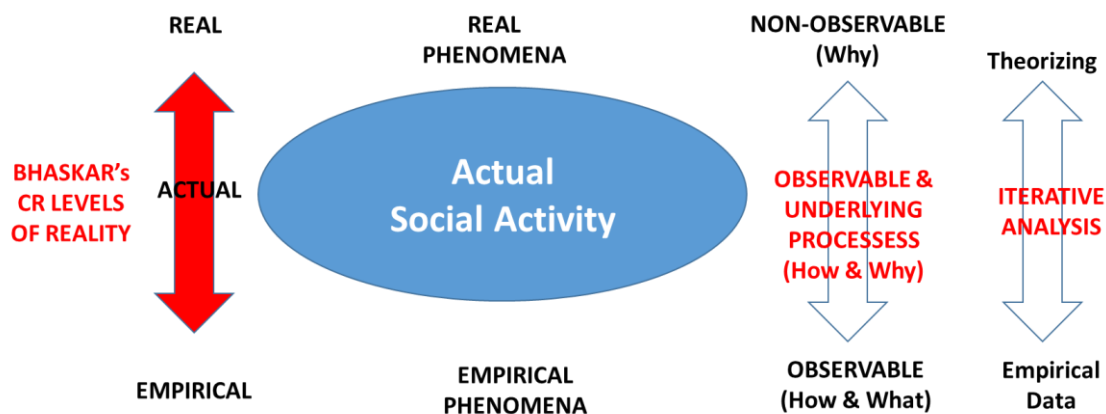
Concluding on Basic Critical Realism and Causality

Basic CR critiques the linear and empiricist view of causality upheld by positivism. CR argues for complex causal processes interconnecting multiple social entities. It also emphasizes that both observable and non-observable processes and causal powers can be known and must be studied. Bhaskar claims the linear causality of positivism relies mostly on "constant conjunction" causality (proposed by Hume[17]): whenever one event occurs the other does as

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[17] Constant conjunction causality is usually attributed to Hume: "two events, A and B, are constantly conjoined if whenever one occurs the other does."

well (Bhaskar, 1975).[18] Critical realists prefer an "explanatory causality" to understand a complex causal process (observable and non-observable) leading to a desired outcome.

3.4 Bhaskar's Theory of Social Transformation from Adversity to Wellbeing

As one of the founders of Critical Realism, Bhaskar is the only that uses the CR ontological and epistemological premises to understand a broader question: how can society change from adversity to wellbeing? To answer this question, Bhaskar captured the process of social transformation from adversity to wellbeing in seven levels embedded in the three CR phases: Basic, Dialectical and Meta-Reality. Together, they represent what Bhaskar called the "Transformative Model of Social Activity".

Bhaskar called Basic Realism the first moment (1M) or foundation for his tenets of a transformative model of social activity. This model was further developed in six additional levels of social change in Dialectical Critical Realism (DCR) and Meta-Reality (MR). These two additional phases of Bhaskar's philosophy of science introduce his branch of critical realism interested in social change. DCR and MR further develop Bhaskar's Transformative Model of Social Activity, grounded in the ontological and epistemological foundations of Basic CR. Box 3.1, below, summarize Bhaskar "1M" foundational CR level.

Box 3.1 Foundational Level: Basic Critical Realism

First moment (1M). The foundation of Bhaskar's Transformative Model of Social Activity stresses the complexity of social systems and diverse social entities (agents and structures), and the observable and non-observable causal powers that contribute to social change. Social reality is stratified: some social entities and causal powers are empirically observed; others are unobservable but real. They are actualized (triggered and come together) through patterns of social activity. We can study this complex causality. Some social interactions can be observed, while other social forces are hidden. Non-observable entities, powers and other underlying causal processes can be inferred from the empirical traces they may leave behind. Social systems are open, context-permeated, systems. Thus, context can inhibit or facilitate social change processes.

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[18] In fairness, present positivist researchers do accept that "correlation is not causation;" yet correlations are the only basis to assess causality; they are foundational also in regression analysis and experiments.

Dialectical Critical Realism: Understanding Adversity

To explain the process towards social emancipation, Dialectical Critical Realism (DCR) emphasizes the critical understanding of the ills and contradictions in society, the assets available for change, and the knowledge-informed practice (praxis) for social action. DCR engages with the co-existence of both social ills and positive assets that constrain or can contribute to change. They are a 'totality' of forces with which agents interact towards social change (Bhaskar, 1993). To engage with a complex world where adversity and positive assets co-exist, agents require awareness and informed practice (praxis).

Two foundational concepts of DCR which criticize positivism are "negativity" and "absences." For Bhaskar, "positive" and "empiricist" thinking does not question society ills and adversities, and therefore does not contribute to their eradication. Also, by overemphasizing only what is observable, hidden social practices that sustain the status quo of adversity go unchecked. DCR deals directly with issues of power, injustice and exclusion (Bhaskar, 2008, p. 222). If these practices are not uncovered and addressed, they will continue to fuel social adversity in real but hidden ways. Bhaskar calls the weakness of positivistic understanding of society as non-real, nearsighted, and afraid of the negative; the term given is "ontological monovalence."

> The great failing of western philosophy, according to its Bhaskarian metacritique, it that it is by and large irrealist (non-transcendental realist): it de-ontologises (cf. the epistemic fallacy) and de-negativizes (cf. ontological monovalence) the world (Bhaskar, 2008, p. xxiv)

Yet, among social ills, societies also have assets, potential and capabilities which co-exist in dialectical opposition to negativity. Bhaskar refers to this as "totality" (Bhaskar, 2008, p. 252). These assets are many times hidden and must be uncovered. 'Absence' in DCR can also mean "… the presence or existence of some positive force for social change" (Bagley, et al., 2016, p. 402).

> Absence as a noun or verb is central to the DCR [Dialectical Critical Realism] process of absenting absences, constraints, contradictions, oppressive power, relations or inequities. Absence is [also] the crucial empty physical, social and mental space that

enables movement, imagined alternatives, processes and change (Alderson, 2016, p. 166).

For DCR, the process of uncovering and understanding, both, social adversity and assets for change leads to collective knowledge and to a commitment for social change. DCR examines adversity (power, injustice, exclusion) and uncovers strengths, opportunities, alliances that can contribute to wellbeing.

Ultimately DCR seeks awareness and commitment of social agents to change. Dialectical knowledge—of ills and assets in society—can fuel a commitment across agents to act for transformative change. This is referred to as 'praxis' or informed practice for social action (Bhaskar, 2008, p. 257). This is the last step in DCR. Bhaskar, then, explains how social transformative action, grounded on praxis, is acted upon by agents and structures. Box 3.2, below, summarizes the three transformative levels associated with DCR: social ills, assets for change, and praxis.

Box 3.2 The Three Levels of Bhaskar's Dialectical Critical Realism

Second Edge (2E): Through critical analysis, this level uncovers the forces that sustain a context of adversity. Critique incorporates an analysis of absences, negativity, power, exclusion and other ills in society (1993). Dialectically, to transform society, we must first uncover the contradictions, negativity, and power issues (social injustices, exploitation, violence, abuse, etc.) sustaining the status quo of any social adversity. Without such critical reflection and engagement with what is absent or distorted, no relevant solutions and pathways for change can be illuminated.

Third level (3L): It shows that absences and other social ills co-exist with positive human and social assets. Positive powers for transformation (across social entities) exist even when not actualized or manifested. The aim at this stage of social transformation is to 'totalize' or unite the human's potential for change. Social change is not achieved by just critiquing the negative and emphasizing only the positive ('monovalence'); uncovering and critiquing social ills must interact with existing strengths and opportunities for human and social transformation.

Fourth Dimension (4D): The last level of the dialectical phase notes a reflective readiness for transformative action. Awareness and capacity (through accumulated knowledge and conscientization) propel readiness for transformative action.

Meta-Reality: Social Transformation in Action

DCR depicted a process of collective knowledge of social ills and assets for social emancipation. This leads to awareness or informed action. Meta-Reality (MR), subsequently, traces this process of transformative social action across individuals, groups and structures. MR explains social transformation as a chain-reaction change across individuals, collectives of individuals, and structures. Bhaskar's Transformative Model of Social Activity requires personal, group and institutional transformations (Bhaskar, 2012 a,b). MR explains how and why agents (people) can transform themselves and collectively interact with structures (organizations, institutions, systems) for social change.

> … [M]ost people assume that there is some kind of conflict between self-change and social change, an approach traditionally associated with spirituality, and an approach traditionally associated with political action. Nothing could be further from the truth. For there is no way to change society save through my actions in the here and now…, of course with others, and designed to have whatever kind of social effect [desired] (Bhaskar, 2012a, p. lxxvii).

Personal actions and change are triggers for social transformation. For MR, personal agency is inherent in the natural properties of being human. These include not only our physical attributes but also internal ones such as love, creativity, innovation, inner strength, etc. These internal assets are used for social change. By using internal assets, we interact with other social entities—other individuals, collectives, culture, institutions, even nature. Thus, the first level of change is personal. For many critical realists (especially from a neo-Marxists tradition that welcomed DRC's roots in Marxist and Hegelian thinking), this holistic view of agency is controversial. MR has even been called a "spiritual turn" (Porpora, 2005; Creaven, 2010).

MR does not contradict the powerful influence of structures (in negative and positive ways). However, MR affirms human agency that ignites the process of social change. Agents (individuals and collectives) can do these through the full range of their inherent causal powers: cognitive, physical, psychosocial, and even transcendental (as in finding life meaningful and believing in something greater that oneself) (Bhaskar, 2012a). When agents can access (become aware and awaken to) their internal qualities, powers and assets, they

are able to change themselves and contribute to social change. In MR, humanity and social life are ultimately grounded in the potential of positive transformation. Emotion and right action are part of what Bhaskar calls 'the ground state" for transformation (Bhaskar, 2012b, pp. 215-221), and they have become a subject of research in education and post-conflict change (Staub, 2003; Staub, et al., 2005; Zembylas, 2007).

> Ground state ….is the ultimate ingredient in all other states of being, activity and consciousness. These ground-state qualities of human beings include inter alia (but not only) our implicit potential…, creativity, love, capacity for right-action and for the fulfillment of our intentionality in the world (Bhaskar, 2012a, p. xli).

However, personal empowerment must lead to collective action. For social change, empowered agents must come together to share their assets towards a broader vision of social change: community betterment, inclusive policies, changes in authoritarian governments, etc. Bhaskar calls this a level of re-enchantment with the social world, where the possibility of social change emerges. As their collective action begins to yield results, social re-enchantment energizes and rewards agents' efforts for change. Collective action does not only include agents, but also their interactions with social structures and even nature (Bhaskar, 2012a, pp. 241-244).

MR reaches its ultimate level by the consolidated achievement of desired social change: e.g., violence declines, HIV infections are reduced, corruption is punished, minorities get political and economic representation, more families move out of extreme poverty. This level of social outcomes requires cultural, institutional and system change. However, a final "eudemonic"[19] society is never reached. It is only an ideal to strive for rather than a one-time reachable social goal. Other social ills remain or return. It is the work of agents and structures to continue to strive towards wellbeing guided by accumulated knowledge. For this on-going social transformation effort, agents now have developed a "co-presence" or awareness of their powers to exert change; "reciprocity" in interactions with other agents, structures and nature; and "transcendental identification" through an intuitive awareness of

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[19] Bhaskar uses the term "eudomonic society" as a vision of the ultimate level of social wellbeing. Eudomonic societies contrast hedonistic ones, where true wellbeing is shared and encompasses all aspects of individual and social life (not only the senses). The term was original quoted by Aristotle to refer to "true happiness."

the complexity of the world and "totality" of forces for adversity or wellbeing (Bhaskar, 2012b, pp. 359-360). Bhaskar's seven stages of social transformation become, thus, an ongoing cycle of social change from adversity to wellbeing.

Box 3.3 presents the last three levels of Meta-Reality within Bhaskar's Transformative Model of Social Activity.

Box 3.3 Meta-Reality Levels and Bhaskar's Transformative Model of Social Activity

5th Aspect (5A): Personal transformation and agency (reflectivity, empowerment, purpose, choice, personal action) are fundamental to social change. Through empowered personal action, one accumulates experience, skills, discernment, and networks of support. Personal change provides the foundation for functional and effective collective action that is "spontaneous, coherent and compassionate" (Bhaskar, 2002a, p.45).

Sixth Re-enchantment (6R): Personal and collective agency produce early outcomes, e.g., community betterment, organized groups, less violence in schools. These emerging signals show the potential of social change and motivate agents to continue. The original position of disenchantment with the world (collective feelings of apathy, hopelessness, and powerlessness) turns into possibility of change. They also lead to advocacy and pressure for structural change. This transformative level starts to impact cultural and structural shifts.

Seventh Zone (7Z): The committed, intentional and systematic actions (practices) of people, interacting with social structures are "causally efficacious" and achieve a social transformative goal. This is not a final social outcome. Situations of negativity, contradictions and power remain and impede a fully flourishing society. Social transformation is cyclical.

3.5 Integrating CR and Resilience: Concluding Section Remarks

My goal of combining Resilience empirical findings and the philosophy of science of Critical Realism was to provide the underlying logic for the T-RES Framework. They not only complemented each other across ontological, epistemological and empirical grounds, but agreed on core principles of transformative change. I found three clear linkages across Resilience and Bhaskar's Basic CR, DCR and MR: social ecology focus, assets amid risk, and chain-reaction social change. Before presenting the T-RES Framework (next section), I conclude with these three commonalities.

First, both CR and resilience emphasize a complex social ecology where change can happen across agents and structures. CR explains that agents initiate social change but are influenced (constrained or supported) by structures. MR and resilience present a humanistic *entry point* to understand the personal component in social transformations, but is not isolated from collective and structural interactions, potentials and constraints.

Although human agency is foundational to understand social change, it is only an "entry point" to a more complex understanding of a chain-reaction process across agents and structures. Given the interdependence of social entities in a complex system, other entry points can be equally useful. Indeed, Bhaskar's critical realism has been used for neo-Marxist economic and social analysis (Creaven, 2000), ecology and climate (Bhaskar, et al., 2010), and even theological (Shipway, 2000) entry points of social transformations. There are as many entry points to transformative change, as there are different types of social entities involved (individuals, cultures, institutions, systems).

Second, the interaction between risks and assets amid adversity is the foundation of DRC and a core area of resilience research. Adverse contexts traumatize, disempower, and disenfranchise potential agents of social change. However, aware, empowered and resourceful agents can interact with others and with social structures toward social transformation. For both resilience and MR, assets such as reflexivity, agency, collective action, and personal and group empowerment are not only instrumental goals (such as developing a skill or a capacity) but 'causal powers' that contribute to social change. The dialectical relations of risks and assets in Bhaskar CR and resilience also lead to a critical awareness of social justice. Field forces in context can inhibit awareness, access and manifestation of assets and causal powers, such as the capacity to reflect, decide, organize and advocate.

Lastly, CR and resilience show a process of chain-reaction change across social entities. Social transformation is interconnected change across individuals, communities, and institutions. Personal transformation shifts internalized oppression to an awareness of one's own powers and re-humanizes those facing adversity. Empowered agents come together as communities or organizations to share their causal powers and assets towards a common social outcome. Collective efforts and community change can lead to cycles of

structural changes by organizing, advocating and demanding changes in structures from outside and within. Structural change, through its causal powers of long-term preservation (through laws, policies, institutions), provides the scaffolding to sustain new personal, community and organizational change.

As noted before, Bhaskar's social transformation tenets and resilience findings seem to be in line with other theories of social change from adversity to wellbeing. Paulo Freire focused on the empowerment of the oppressed (1996), and Leonel Narvaez Gomez wrote about the process of forgiveness and reconciliation at the individual and social levels to contribute to peacebuilding in Colombia (Narvaez-Gomez & Armato, 2010). Thinkers such as Bourdieu (1986, 1989) and Foucault (1980) call attention to the power of culture, institutions, and systems to, for example, normalize beliefs, values and norms that sustain social adversity. A process of chain-reaction change across individuals, communities and societal structures has been recognized as the underlying foundation of transforming violence to sustainable positive peace (Galtung 1969, 1990; Freire 1994, 1996, 2001; Staub 2003, 2011).

This integration provides the underlying logic to build the T-RES Framework. Logic refers to a certain level of consistency and completeness of the concepts, relations and boundaries that provide a theoretical explanation, such as the T-RES Framework. Annex B.2 presents the overall analysis to integrate Critical Realism tenets and resilience findings. The next section introduces the development of the additional components of the T-RES Framework.

3.6 The Transformative Resilience (T-RES) Framework

The T-RES framework aims to provide guidance to studies of complex problems that require social change, such as violence prevention. A conceptual framework is at a higher level of abstraction, to be used in a variety of empirical settings and contexts. It serves as a guide, not as a prescriptive set of rules. During research design, it can help researchers reflect on which questions to ask by identifying initial areas of attention. For analysis, a conceptual guide can illuminate areas to be uncovered, connections to be made, and additional data to be collected. The T-RES Framework, as any other theoretical guide, should not be used only deductively to "fill in" data in pre-identified concepts. The research process should be free to innovate, find new evidence (even contradictory to the framework), and critique or propose changes to the original conceptual guides.

In this last section, I present the development of the T-RES Framework, consisting of its concepts, relations and boundaries.

The T-RES Theory Building

As noted in my methodological section (chapter 1), "theory" is an explanation of a phenomena. It has two purposes: to organize parsimoniously and to communicate clearly (Bacharch, 1989, p. 496). Theories also carry prior knowledge on the phenomena of interest. They share aggregated empirical findings through a set of middle-range[20] abstracted concepts and their relations, including their limitations and underling logic. The four components of theory building related to the T-RES Framework are (Bacharch, 1989; Sutton & Staw, 1995; Weick, 1995; Colquitt & Zapata-Phelan, 2007):

(i) **Concepts or Constructs[21]:** To build the conceptual constructs of the T-RES Framework, I re-conceptualized the seven levels of social change, from adversity to wellbeing, of Bhaskar's critical realism integrated with resilience findings.

(ii) **Relations:** I made explicit three relationships across the T-RES seven constructs, noting complex interactions, a process of collective knowledge, and chain-reaction change from social adversity to wellbeing across social entities.

(iii) **Boundaries:** The T-RES principles apply to complex causality and may not be compatible with research guided by a positivistic epistemology. Also, while explanations of causal mechanisms are generalizable as middle-range theories, T-RES emphasizes that field forces in each context can inhibit or facilitate the causal process.

(iv) **Logic:** The integrated CR and Resilience logic is the foundation for the T-RES Framework. It justifies its conceptual premises: why those constructs, why those relationships, and why those assumptions and boundaries? Logic refers to "the underlying processes that explain relationships, touching on neighboring

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[20] "Middle Range" refers to theories that are abstracted for generalization but close enough to the empirical findings that generated them.

[21] For the T-RES Framework I will use the term "constructs" rather than "concept," to better signify that these are not isolated "concepts" but inter-dependent parts of a theoretical construction. Constructs are indeed broad concepts related to a specific topic (in my case social change from adversity to wellbeing).

concepts or broader social phenomena and describing convincing and logically interconnected arguments" (Colquitt & Zapata-Phelan, 2007, p. 1285).

The CR and resilience logic for the T-RES Framework has been discussed. Next, I introduce the three additional theory-building components: constructs, relations and boundaries.

The T-RES Framework Constructs

There are seven constructs in the T-RES Framework, organized across three relations of complexity, collective understanding, and transformative action (see figure 3.2 below): (i) agents and structures, (ii) social adversity and critique, (iii) assets amid risks; (iv) collective awareness and commitment, (v) personal action and empowerment, (vi) collective action and community betterment, and (vii) institutional and cultural action and structural scaffolding.

Figure 3.2. The Transformative Resilience Framework
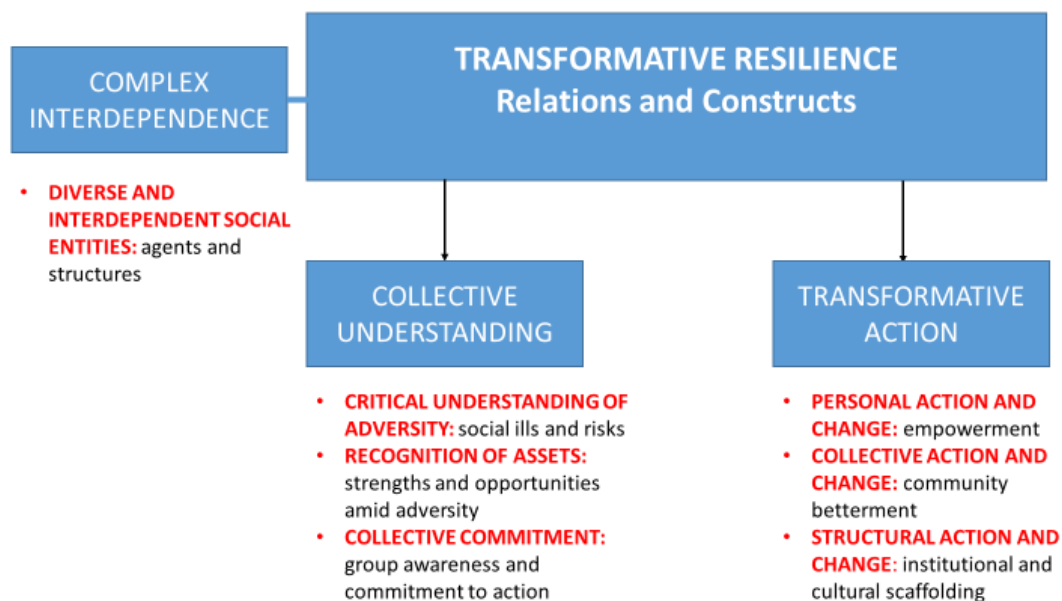
The Seven Constructs Within the T-RES Framework

The T-RES Framework consists of seven conceptual constructs that mirror the seven phases of Bhaskar's Critical Realism, through its Basic, DCR and MR levels. This section explains each construct.

Construct #1: Complex social system, agents and structures, and their causal powers. A study of transformative resilience in social systems must start with a broad view of the diverse social entities that play a role in social change. It includes both agents and structures and their relations within an outcome of interest (e.g., violence prevention). To understand social change, "agency" of human actors (individual and collective) must be studied: Who participates for or against the change process? What are the different meanings regarding adversity and the purpose for change? What are the range of contributions and causal powers to achieve intended aims? Agents are, however, influenced by local culture and institutions. These social entities sustain social behaviors and collective beliefs in the long-term. Culture does it through collective values and norms of behaviors, and institutions through laws, policies and organizational structures. Structural and agential forces contribute towards adversity or social wellbeing.

Construct #2: Social Adversity and Critique. Critically understanding the complexity of social adversity can trigger the process of transformative resilience. The complexity of social ills—homelessness, displacement, conflict, violence, extreme poverty, exclusion, etc.—must be explained and "entry points" found to understand the forces that sustain the adversity of interest. Causes can be observable and unobservable. Many times, the sources of adversity are purposefully hidden and normalized: unearned privileges, biases, exclusions, etc. To uncover and understand a social ill requires critical analysis. Knowledge of underlying causes must problematize what seems normal or innocuous. Purposefully hidden forces are also uncovered by listening to the stories and views of those who are excluded and powerless (rather than only the explanations of adversity of those in power).

Construct #3: Assets Amid Risks. Recovering, functioning and positively changing in the face of adversity requires assets amid risks. This is foundational to Transformative Resilience. Assets are both internal (strengths) and external (opportunities and resources) and are present across social entities: individuals, collectives (e.g., communities and organizations), and institutions. An understanding of available assets in each context of adversity serves as a building block to uncover potential pathways to social wellbeing. Critical analysis is also needed. Some assets lead to dysfunctional coping (such as youth joining gangs for protection or entering sex work or child labor to satisfy the basic needs of their family). The aim is to identify both functional and dysfunctional assets—the former to

use in the pathway towards overall personal and social wellbeing, and the latter for protection and providing alternative pathways to dysfunctional copying. Finally, other forces, in context, can inhibit agents' internal strengths (decision-making and action) as well as access to external assets (social services, organization, and advocacy). Understanding these context (field) forces is also an analytical component for the "Assets Amid Risk" construct.

Construct #4: Awareness and Commitment. Transformative social action requires awareness and commitment. These lead to purpose, informed action, and reflection during and after action. Awareness first requires equitable participation. However, in many contexts of social adversity, segments of the population are explicitly excluded and silenced. Traditionally excluded groups are even made to believe that they deserve their fate, by internalizing blame and normalizing adversities. Any process of social change must account for strategies to raise awareness and share knowledge of the underlying causes of adversity, and the assets available for social change, especially for those traditionally who are excluded and vulnerable.   The aim is to reach a level of 'praxis' where social action is energized by awareness, collective goals are informed by knowledge, and social action is guided by constant reflection.

Construct #5: Personal Action and Empowerment. Transformation is a chain-reaction social change triggered at the individual level. Personal action for social change requires empowerment: awareness of one's own assets, confidence, self-determination, autonomy and other internal assets that guide personal change. Personal empowerment propels action and can ignite a process of chain-reaction change across groups, communities, organizations, and institutions. Personal empowerment also provides confident access to external resources for action: information, allies, meaningful social services, etc. Empowering traditionally vulnerable agents to critically identify and use their internal and external mechanisms for change is a core milestone in transformative resilience.

Construct #6: Collective Action and Community Betterment. Transformative change from social adversity to wellbeing requires collective social action. The process of collective action parallels the process of awareness and empowerment at the personal level. The focus, however, is on community building. A collective of agents (e.g., a community, an organization, a civic movement), moreover, provides an ensemble of critical, normative,

strategic and tactical assets for change, which may not be all present in single individuals. The community betterment process includes collectively understanding the underlying causes of adversity; setting a collective purpose for social change; identifying collective assets to demand, work for and achieve change; and participating in social activities geared towards the social outcome of interest. Collective purposes and gains are incremental (e.g., community betterment). Smaller successes build confidence and experience to advocate and work for higher societal level changes.

Construct #7: Structural Change and Scaffolding. Personal, community and broader social changes require sustainability support. As social ills are addressed, the newly-achieved status of wellbeing requires new structural aims (policies), norms (laws), services (plans, programs and projects), and resources (financial, human, institutional). Each cycle of social change (at any level) should be safeguarded and sustained by a structural scaffolding, institutionally and culturally. Long-term scaffolding of social activity and aims is a core causal power of institutions. Sustainability also requires changes in culture and mindsets that upheld social wellbeing, rather than adversity. "Scaffolding" is not a one-time process. Structures are long-term but not permanent, and active efforts are needed to sustain them or change them. Social change is ongoing; while gains in wellbeing are sustained, other social ills need to be addressed.

Relations Across the T-RES Core Constructs

The above listed seven T-RES constructs are interconnected. There are three core relations: Complex Interrelations, Collective Understanding, and Transformative Social Action. Together they contribute to an "informed practice" (or praxis) of social change and provide a sense of order and direction across the seven constructs. Relations strengthen the explanatory potential (Shepherd & Suddaby, 2016; Colquitt & Zapata-Phelan, 2007).

Figure 3.3

Theoretical Relations of the T-RES Framework
Complexity, Collective Understanding and Transformative Action

COMPLEXITY

Collective Understanding
of Social Change

PRAXIS

Transformative Action
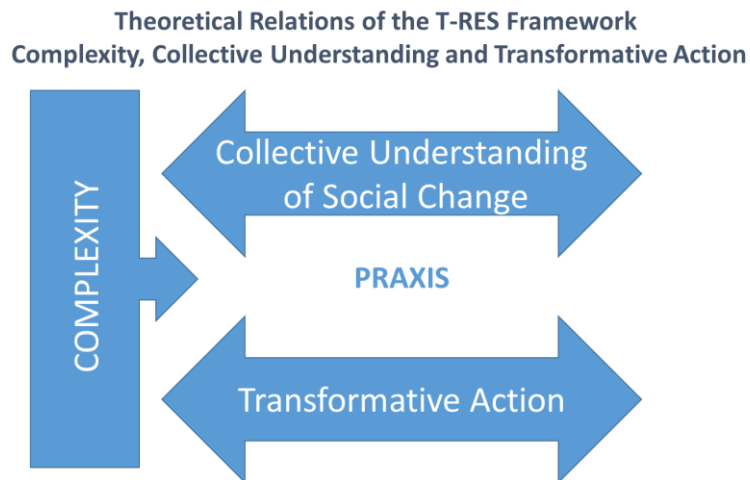
Complexity of interactions is the core relation within the T-RES Framework. It calls for a commitment to non-linear thinking to assess multiple relations across agents and structures in a context of adversity and for social change. The T-RES Framework advises us to understand agents and structures, observable and non-observable processes, system and context, and forces for and against change. Complexity is also dialectic. We need to be open to find assets among risks, as well as multiple and contradicting goals and views of the problems, and the solutions.

The process of 'collective understanding' is the second relation across the T-RES constructs of understanding adversity, assets amid risks, and awareness and commitment for social action. Bhaskar calls this process 'conscientization'. In addition to awareness of 'why' social change is needed, this phase also requires strategizing 'how' to achieve change and 'with what' tools, resources, etc. Thus, it also includes planning and programming activities. When connected to "social action," awareness and commitment can be called "praxis."

The third relation is 'transformative social action.' This connects the T-RES constructs proposing personal, collective and structural action and change. Purposeful action leads to outcomes. Personal transformation leads to empowerment. Collectively, communities and organizations of people can define goals and act for mutual betterment. Structural change is possible through collective action. Once change is achieved, it needs to be preserved. Scaffolding positive change is possible through institutions, policies, laws and a shared culture.

Theoretical Boundaries: Complex Causal Processes and Context Field Forces

There are three boundaries that limit the application of the T-RES framework to an empirical study.   First, the T-RES Framework is only meant to study complex social change. Second, internally within a case, some of the postulates of the T-RES Framework can be inhibited by field forces in each context. Lastly, the T-RES Framework is just a conceptual guide for more substantive research. These three theoretical boundaries are detailed next.

Diversity of Social Entities and Complexity. The T-RES Framework is intended to guide an analysis of chain-reaction change across agents and higher-level structures. If the focus of research is only at the individual or the structural level, the T-RES Framework will not be useful. Also, for analysis that needs to isolate an intervention and outcome of interest from its context, the T-RES Framework is not relevant. The T-RES Framework guides deeper analysis of how and why a complex set of social activities, across social entities and causal powers leads to a social change outcome. It embraces complexity in the analytical process.

Field forces that facilitate or inhibit social change. The complexity, collective awareness, and transformative social action postulates of the T-RES Framework can be inhibited by field forces in each context. Contexts of adversity can exclude some social entities (minorities, excluded communities, etc.); prevent social entities from coming together in a change process (exclusionary institutions, tensions between minority groups, etc.); and inhibit causal powers from being actualized (reflection, awareness, decision-making, etc.). The methodology aligned with the T-RES Framework includes critical analysis to identify the field forces, in context, that inhibit or facilitate social change.

Conceptual Guidance, Not Prediction. The T-RES Framework sheds light on complex causal relations in social systems, but it does not predict outcomes. It contributes to understanding a complex causal process related to an outcome of interest (e.g., peace or non-violence) in a specific context of social adversity (e.g, violence). The T-RES Framework provides only a map for researchers' own substantive work to uncover and explain the processes leading to the outcome.

Conclusion – Guiding Substantive Research

The logic of the T-RES Framework is grounded in the transformative potential of 50 years of resilience findings on recovery, functioning, and positive change. It is also aligned with the

in-depth ontological and epistemological premises of social transformation in Bhaskar's Critical Realism. The aim is for the T-RES Framework to facilitate innovative EIE analysis that embraces complexity. As a theoretical framework, it welcomes challenge. Theoretical frameworks, ultimately, require a balance between knowledge that can be generalized, but also constantly adapted.

> ….. theory cannot afford to ignore the variations that are thrown up from practice. A relativist view is therefore inevitable if it is to address specific people in specific situations in specific times with specific concerns. Yet, the very definition of theory demands some level of abstraction and generalization… The general form here will be of such nature that it remains valid (though manifested in different forms) regardless of the specificity (unlike simplification that tend to lose facility in specificity) (Chettiparamb, 2014, p. 11).

Before testing the T-RES Framework in empirical research, it needs to be operationalized for application in a research effort. My preference is for qualitative methods, as these can better study complex social practices. Qualitative research also provides interactions of empirical data and theoretical analysis (Wu & Volker, 2009; Cresswell, 2014, pp. 51-76). To do so, Chapter 4 proposes a methodological approach grounded in abductive analysis; this can guide the design of case studies, data collection and qualitative analysis for causal explanations.

Subsequently Part C will test the T-RES Framework and related research method in a case study of violence in El Salvador and the efforts of schools to mitigate and prevent it.

CHAPTER 4. OPERATIONALIZING THE T-RES FRAMEWORK FOR RESEARCH APPLICATION

This chapter provides methodological guidance to apply the T-RES Framework to an empirical research. To select a relevant research method, I first define what a complex problem is (differentiating it from simple and complicated ones). Second, I discuss how the use of causal mechanisms can explain the process by which complex social activity leads to an outcome of interest, and why the social entities involved have the power to do so. Third, I discuss abductive reasoning, and how its engagement with theory and empirical data, makes it most relevant to study complex causality. Last, I introduce Process Tracing as a qualitative causal analysis method, and additional adaptations to apply the T-RES framework in a research endeavor.

4.1 Complex Problems and Their Many Interrelated Parts

Problems to be addressed by social policies and programs can be simple, complicated or complex (Westley, et al., 2007; Ramalingan, et al., 2008; Westley, et al., 2007). Understanding the difference can help us not only to identify them, but also to select the right research approach to understand them. This is especially important for the growing interest in the EiE field for protracted and socially ingrained problems.

> [P]ractitioners and researchers, project managers, and policy makers [faced with complex problems] …. share at least three things: a struggle to make sense of the complex realities faced in the development and humanitarian efforts, a sense that the ideas of complex system research carry value for thinking and improving their efforts, and the space and courage to try something new and to see what might transpire (Ramalingam, 2013, pp. 277-278, Kindle Edition).

Simple problems can be broken into smaller and manageable questions, and their cause and effect relations are linear. The cause and effect relation between two factors, entities or events can be assessed by their constant conjunction (Holland, 1986; Glennan, 1996; Liu & Wen, 2013). However, the difference between complicated and complex problems is not straight forward. Cochran-Smith and her colleagues (Winter 2014) (2014) explain:

> The fundamental distinction between complicated and complex systems…, both of which have multiple parts and interactions … [is that] if a complicated system is

taken apart and its pieces closely examined, the nature of the system functioning can be fully revealed [space rockets] …. In contrast, with complex systems, complexity is manifested at the level of the system itself as a result of the interactions and non-linear relationships of component parts and of intricate feedback loops in the system…. [W]holes are much more than the sums of their parts (p.107).

A complicated problem is also difficult, as each of its parts contributes to the process and outcome of the whole system. However, identifying the one part that malfunctions can help explain a complicated problem. The internal interconnected wheels of a clock are often cited as a complicated system.

Complicated and complex problems, both, have many different parts. However, the parts of a complex problem are interrelated and depend on each other existence; they cannot be isolated from each other; and are constantly changing and unpredictable (ODI, 2011). Solutions for complex problems requires constant attention to dynamics in context and adaptive responses. Some have described this process as "akin to flying an airplane while still building it" (Cochran-Smith, et al., Winter 2014, p. 116). Complex problems have also been called "wicked" problems that "involve multiple interacting systems and are replete with social and institutional uncertainties, for which only imperfect knowledge about their nature and solutions exists (Mertens, 2015, p. 3).

In line with the above understanding of complex problems, the T-RES Framework was developed to address the following characteristics of causality in complex problems: (i) diverse and interrelated social entities, (ii) process-based and dynamic change, (iii) underlying causal capacities, and (iv) context field forces. Causal analysis using the T-RES Framework must be accompanied by relevant research methods that can analyze these characteristics of a complex phenomenon.

4.2 Explaining Complex Social Change: Causal Mechanisms

The use of causal mechanisms can help understand a complex causal process. Causal processes and underlying causal powers are called "mechanisms." These are explanations of 'how' and 'why' a purposeful social activity leads to an outcome of interest. Beach explains that mechanisms have two components: one is minimalist and the other is systemic. The minimalist form describes the pattern of social practice leading to the outcome of interest.

The systemic form theorizes on the "entities and the causally productive activities that provide the causal link…" (Beach, 2017, p. 20).

Causal mechanisms are in line with Critical Realism, the ontological and epistemological foundations of the T-RES Framework. As noted in Chapter 3, the causal powers of social entities exist due to the natural necessity of being human or being a social structure (Harre & Madden, 1975; Bhaskar, 1975; Cartwright, 1995; DeLanda, 2006). However, they are actualized through social activity and affected by context. Causal mechanisms have concrete applications in seemingly diverse topics such as social policy (Cartwright, 2012; Cartwritght & Hardie, 2012) and information systems and artificial intelligence design (Lynne, et al., 2002; Pascal, et al., 2013).

Uncovering causal mechanisms aligns well with the aim of T-RES Framework to assess both the process and the needed causal powers of multiple social entities (agents and structures) which contribute to social change (Cartwright, 2007). The unit of analysis to uncover causal mechanisms is social activity. These are the complex interactions between individuals, groups, institutions and their respective cultures. These social practices are purposeful (seek an outcome) and systematic (are repeated). This purposeful intentionality is further explained by Blom and Moren:

> …*Mechanisms = powers + micro-social interaction and structure*. The mechanisms consist of powers in terms [of] causes, motives, considerations, choices and [of] *social interaction at an individual level* (dyads or smaller groups). At the basis is intentionality (a human fundamental power) that is the driving force behind motives, considerations and choices. Intentionality can, in turn, be affected by previous causes and the circumstances [context] that condition human opportunities to choose. The powers (causes, motives, considerations and choices) are mediated and work by means of micro-social interactions … but also by way of social and material structures (e.g., role expectations related to gender, ethnicity, religion, hierarchical positions; and communication technology….) (2011, pp. 64, original italics).

The analytical use of causal mechanisms has led to confusion and debates in the literature. Critics claim lack of consistency. Indeed, Hedstrom and Ylikoski (2010) reviewed the evolution of "mechanisms" thinking and found multiple definitions, but with some basic

tenets across them. Mechanisms (i) focus on outcome by defining the effects they produce; (ii) provide causal explanations through process and participating social entities; and (iii) have a structure (of entities at lower and higher levels, their properties, activities and relations that produce an effect) (ibid: 50-52). Gerring notes that some of the attributes of mechanisms are "… patently contradictory." Evidently, a mechanism cannot be difficult-to-observe as well as easy-to-observe, context-bound as well as universal, contingent as well as law-like (2010, p. 1501)."

I claim the seeming contradictions in the definition of a "causal mechanism" emerge because of confusion with its 'how' and 'why' components. As noted before, the first component of a mechanism abstracts the 'how' from observable social activity leading to the outcome of interest. The second component infers the 'why' or the unobservable causal powers (purpose, strategic thinking, empowerment, humanization, normalizing, controlling, etc.) of the social entities which interact in the causal activity.

> The two-part characterization of a mechanism, in terms of behavior and the mechanism that produces it, leads naturally to a two-part characterization of a mechanical model. The behavioral description is a description of the external behavior of a mechanism. The mechanical description is a description of the internal structure—the guts of the mechanism (Glennan, 2002, p. S347).

For the T-RES Framework, mechanisms are a crucial component to study causality through qualitative and theory-based research. Mechanisms reflect both observable events (through social practices) and underlying structures (causal powers). This engagement with observable and non-observable causal components is not contradictory but necessary. The complexity of social change requires understanding "how" social practices lead to an outcome of interest and "why" the social entities participating in that process have the "causal powers" to affect such change (Cartwright, 1995; Cartwright, 2007; Archer, 2015). Figure 4.1 (below) shows the "how" and "why" components of causal mechanisms, which can be related to a specific intervention (the "what").

Figure 4.1

CAUSAL MECHANISMS: The "HOW" and "WHY"

"WHAT" – AN INTERVENTION: policy, program, project, social activity or event

"HOW" – SYSTEMATIC PRACTICE WITH A PURPOSE: step-by-step process (connecting intervention with outcome)

"WHY" – CAUSAL POWERS: the causal capacities of social entities (individuals, communities, institutions, culture) by interacting in social activity
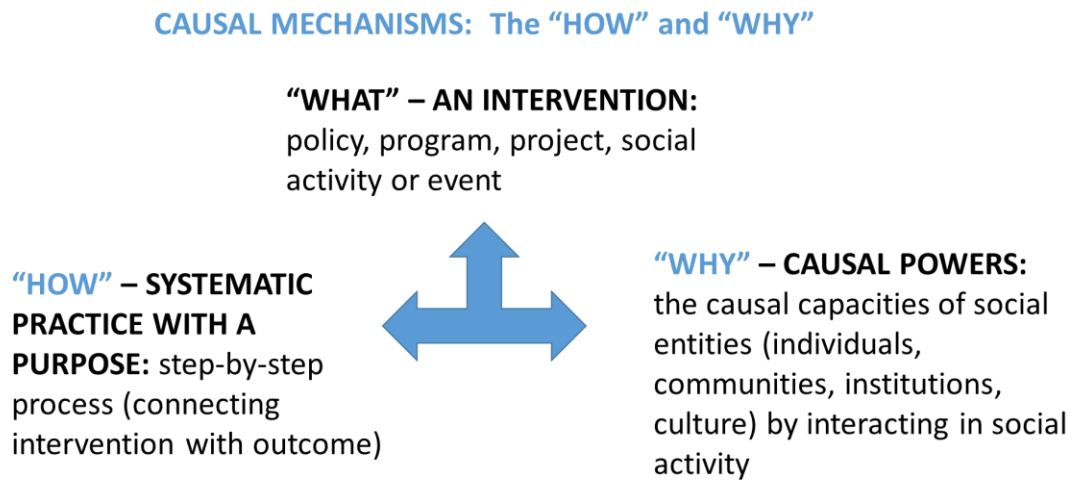
Section Conclusion

Understanding complex systems has been the preoccupation of scientists not comfortable with linear and simplified views of the world. However, complex problems and complex causality require research and analytical methods that engage with the characteristics of complex problems and complex causality. There are two minimum non-negotiable characteristics for complex causal analysis from a Critical Realist stance: (i) focus on the integrated causal process rather than isolated parts (since isolating a part is not possible), and (ii) engage with both observable and non-observable causal elements (since causal powers exists even when not actualized, and many social influences can be hidden). Qualitative research is well placed as it "attempts to gather detailed evidence of social processes, activities and events, rather than attempting to measure or enumerate social phenomena (Harvey, 2012-2019, p. 1). Underlying and difficult to observe realities is the realm of theory-based research approaches. "Theories provide complex and comprehensive conceptual understanding of things that cannot be pinned down… (Reeves, et al., 2008, p. 949)

I turn next to the value of abductive reasoning which provides a solid foundation for the two minimum criteria to engage with complex causality, integrated process and non-observable realities, and the need for the application of the T-RES Framework in a qualitative research endeavor.

4.3 Abductive Reasoning and Theory-Based and Critical Analysis

Complex causal analysis requires rigorous research methods, especially to analyze an integrated social process leading to the outcome of interest and to engage with both observable and hidden causal elements. Abductive reasoning provides the foundation for this analytical need. It is also well aligned with theory-based and critical analysis.

Abductive Reasoning: "What needed to have occurred for this to take place"

Abductive reasoning helps understand complex causality. Through abductive analysis, one can examine empirical data from a process to infer unobservable causal mechanisms ("what is this data a case of?"). Abductive analysis seeks to uncover underlying explanations of social phenomena, by systematically interacting between observation and theorizing to infer explanations of a phenomena.

> Our observations are indicative of a larger pattern. Theory construction, in these terms, is the production of an understanding, of a new claim regarding the empirical world, that we hope others will take up, argue with, refute, or employ (Tavory & Timmermans, 2014, p. 23). [22]

Abduction is a combination of three theoretical analyses: Deductive which analyzes data based on prior knowledge; inductive which examines new concepts grounded on the empirical data observed; and retroductive which infers the unobserved processes and underlying forces that lead to the desired outcome. (Pietarinen & Bellucci, 2014). Abduction and retroduction are often used interchangeably. In my thesis, I refer to retroduction as the actual inference of a previously occurring or underlying mechanism, and to abduction as the overall analytical method including its deductive and inductive iterations.[23]

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[22] Tavory and Timmermans explained the development of abductive reasoning from a pragmatism perspective, but it is also used in critical realism. This is, in part, based on the thinking of Charles Peirce, one of the founders of American pragmatism philosophy, which began in the USA in the late 19th century. (The other founders are William James and John Dewey.) It upheld causal meaning through social action, and the discovery of underlying theories that guided action and consequences.

[23] Indeed, some research use the opposite logic, naming retroduction as the overall analytical inquire process, and abduction as the analysis to infer underlying mechanisms, combined with deductive and inductive thinking. This is caused precisely by C.S. Peirce's interchangeably using both terms. See for example, Pietarinen A. and Belluci, F, 2014.

Pietarinen and Belluci (2014) explain the relations between deductive, inductive and retroductive analysis, as one of justification.

> It has been maintained that Peirce took abduction to be justified by induction, and induction by deduction, each nonetheless retaining its distinct leading principle and distinct role in inquiry…. Peirce presents such a view in 1902, stating that 'as induction is proved to be valid by necessary induction, so this presumptive inference [retroduction] must be proved valid by induction from experience'… He also claimed that both induction and retroduction manifest a deductive 'rationale' (p. 358).

For example, the T-RES Framework is the deductive component of abduction. It collected prior knowledge of necessary causal components of social change from adversity to wellbeing. New substantive research uses this prior knowledge, converted to a theoretical framework, to guide decisions on causal questions to be asked and new data to be collected, and to conduct more meaningful analysis. However, each new research endeavor collects new data from the specific context of the study. This provides an inductive component that traces empirical information, within a specific case, connecting a causal process to an outcome of interest. New interesting and surprising patterns of data from each new context of study can contribute to adapting, validating or even disregarding the T-RES Framework. Retroductively, the complex causal mechanisms (the "how" and "why") that can explain the outcome of interest are inferred from these theory and data interplays.

> …. abduction is the form of reasoning through which we perceive an observation as related to other observations, either in the sense that there is an unknown cause and effect hidden from view or in the sense that the phenomenon is similar to other phenomena already experienced and explained (Tavory & Timmermans, 2014, p. 37).

The above abductive process and phases are not linear, but reiterative and overlapping. Throughout the different phases of a research process, prior knowledge proposes (but not forces) necessary causal elements to be considered; new empirical findings point to causal connections in a specific context; and then retroductive theorizing infers the non-observable but real causal mechanisms, noting what needed to occur for this to happen.

> Abduction consists in studying facts and devising a theory to explain them… and in the sixth lecture he [Charles S. Pierce] said 'abduction is the process of forming an

explanatory hypothesis…. Therefore, with the process of abduction we begin by some particular occurrence or event…; and then we take an imaginative leap to think of some theory or explanation which might account for the event. This is neither induction from the examples, nor a deduction from the rule, but rather an explanatory hypothesis as to why the situation might have occurred (Mingers, 2012, p. 860).

In general, to infer causality, abductive analysis engages with theory at the beginning and at the end of an analytical process. At the outset, it evaluates new observations against existing theories of the phenomena of interest. At the end, it infers a theory of what the causal process was, including its non-observable events. Throughout, it interacts with empirical data: deductively, inductively and retroductively.

[This]…misses perhaps the most coveted aspect of theorizing: explaining why observed events occurred. A compelling data analysis not only moves from observations to an abstracted description, but also provides readers with a causal explanation…. We can never see causality – what we see is on-going changes in the world, and perhaps we recognize some regularities in our observations overtime. Upon these observations we then impose a causal structure. … Moreover, any causal account ignores much of what is happening, providing an overly neat narrative that highlights only what we see as essential for the story. … [F]ocusing on abduction and meaning-making in action already presumes causality. In its most basic form, abduction asks what we should assume to be true … implying a sequencing of events influencing each other (Tavory & Timmermans, 2014, p. 87)

The Theory-Based Application of the T-RES Framework

The application of the T-RES Framework clearly requires analytical iterations of theory and empirical data. This section explains the importance of theory in studying social complexity. As exemplified by abductive thinking, "theory" can carry both existing and new knowledge, about the "how" and the "why" of a change process. Collier (2011, p. 824) explains that while a broad conceptual framework provides initial analytical guides based on existing knowledge, this may include theoretical abstractions from "recurring empirical regularities" explaining how a phenomenon occurs (called "theory I") and why (called "theory II"). The conclusions of a study generate middle ground theories, as context-based findings that

connect to a broader body of theoretical knowledge. Middle ground theories are generalizable abstractions but still connected to their empirical findings (Merton, 2007). These four levels of theory use in a research endeavor are detailed in table 4.1, below.

Table 4.1. T-RES Framework: Theory-Empirical Interactions		
Theoretical Level	**Aim**	**Interaction with Empirical Data**
T-RES Framework	Initial guide on research questions, data, and analysis related to social change from adversity to wellbeing.	Initial data coded based on prior knowledge regarding social change: Praxis, collective understanding, and chain-reaction change
Theory I Analysis (Recurring Empirical Regularity)	Abstract the "how to" component of a causal mechanism, linking core social activity and entities to the outcome of interest.	Identify patterns of social activity and trace observable actions of social entities (individuals, communities, institutions, etc.) leading to an outcome.
Theory II analysis (Causal Explanations)	Abstract the "why" component of a causal mechanism, explaining the causal powers of social entities and their ensemble to achieve the outcome of interest.	Identify the empirical traces left by social entities (individuals, communities, institutions, etc.) and their interaction leading to an outcome to infer underlying causal powers.
Middle-Ground Theories (generalizable)	Based on empirical findings and theoretical inferences, confirm or propose new generalizable constructs and processes of social change.	Middle ground theories can be connected to their empirical findings, although abstracted for application across similar contexts of adversity.

The Critical Edge of the T-RES Framework: Analysis of Adversity and Wellbeing

Lastly, for research focused on adversity, theory-data interactions must include a critical analysis to problematize seemingly normal and/or innocuous social processes that may hide structures, processes and mechanisms that sustain and reproduce adversity. Critical analysis in these contexts has an inherent normative position: to understand and contribute to social change from adversity to wellbeing. The T-RES Framework claims that understanding the underlying forces that sustain social ills are crucial components of a causal explanation of transformative social change.

Why should a researcher problematize a situation to critique it? A critical and normative position from the outset recognizes the *sine qua non* processes that sustain social adversity, such as unearned privilege and power, injustices, exclusion, and dehumanization. As this tends to be normalized, the way to uncover them is to problematize them. This is not a biased position at the beginning of a research endeavor; rather, it is sustained by ample historical and prior empirical evidence (Vaidya, 2013; Peters & Besley, 2014). Critical theory and analysis bring it to the fore precisely for research professing to study social change, including critical realism (Wuisman, 2005). Yet, for the T-RES Framework, as noted before, critical analysis does not end with an examination of the underlying forces that contribute to social ills, it also attempts to understand assets for change.

Methodologically, critical analysis of underlying forces also rests on the abductive iteration between theory and empirical data. It benefits from extant theoretical frameworks that explain issues such as exclusion, colonization, gender studies, and economic and political structures, as well as from middle-range theories of prior and related fields of studies (e.g. political science, economics, and community psychology).

Within the research process, problematizing and questioning certain social activities (exclusions, silencing, privileged actions, etc.) is just a mechanism to uncover any underlying structures that sustain adversity. This also requires empirical by-products or observations[24] of the underlying processes that contribute to social ills, such as increased poverty and marginalization, racially based inequities, gender and sexual orientation marginalization, etc. (Collier, 1994).

Section Conclusion

Abduction provides the analytical rigor to engage with complex causality, in particular, to assess the integration of the causal processes within social activity and the underlying causal powers of agents and structures. It achieves this complex analysis by connecting theory with empirical observations, generating new knowledge of observable and unobservable causal forces. Figure 4.2, below, summarizes this abductive integration.

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[24] As noted before, Bhaskar's critical realism calls "demi-realities" the empirical observations that point to underlying mechanisms that contribute to social ills. Empirical observations, thus, are useful to infer hidden and underlying processes and causal powers.

Figure 4.2

Abductive Causal Reasoning

Deductive

PRIOR KNOWLEDGE BASED THEORY: scientific fields of study, conceptual frameworks, middle-range theories

Inductive

EMPIRICAL DATA: new findings, surprising facts, empirical traces of underlying processes

Retroductive

WHAT NEEDED TO HAPPEN FOR THIS TO OCCUR: New theorizing and inferences on causal process and powers
- Purposeful systematic practices towards outcome of interest
- Causal capacities/powers of social entities
- Field forces in context that inhibit or facilitate social change

4.4 Operationalizing the Application of the T-RES Framework

Abductive reasoning provides a clear role for the T-RES Framework: it provides an initial theoretical guide from existing knowledge of the process of social change from adversity to well-being. This existing knowledge is grounded in 50 years of resilience research and the rigorous philosophy of science debates within Bhaskar's Critical Realism. The seven T-RES constructs, developed in the third chapter, are the aggregation of this prior knowledge.

What is needed now is a method to operationalize the T-RES Framework in a research endeavor informed by abductive causal reasoning. This is provided by the adaptation of Process Tracing, a qualitative causal analysis method (George & Bennett, 2005; Beach & Pedersen, 2013; Bennett & Checkel, 2015). It traces social activities and events related to an outcome of interest. Based on abductive reasoning, it engages with theory and empirical evidence to trace observable ('how') and non-observable ('why') causal processes.

Process Tracing provides ways to assess qualitative evidence that can substantiate complex causality (Mahoney, 2000; Beach & Pedersen, 2013; Center for Development Impact (CDI), 2015). This is informed by abductive reasoning and its deductive, inductive and retroductive analysis. Existing knowledge in the form of theoretical understandings of the phenomena of interest is assessed. Then new data from the case studied is inductively collected. The theoretical guides and the new data are brought together to help infer, retroductively, what

is required for the outcome to occur. Process tracing refers to this analytical integration as the "causality" tests:

- Is the evidence in line with known and 'necessary' components of a causal process?

- Does the data collected show surprising and unique findings and, therefore, sufficient evidence for a causal process?

- Is there other empirical trace evidence pointing to a causal process, even if they do not provide necessary nor sufficient evidence on their own?

- Does combined data provide, both, necessary and sufficient evidence to infer a causal process?

These tests assess the 'necessary' and 'sufficient' evidence to infer causality in (mostly) qualitative research endeavors. Each of the above four questions and 'tests" are known by the names given by the original Process Tracing authors (Bennet and George 1997), as follows:

(i)   'Hoop Test' or necessary elements to confirm a causal hypothesis;

(ii)   'Smoking Gun Test" or sufficient evidence to confirm a causal hypothesis;

(iii)   'Straw-in-the-wind Test', useful but not necessary nor sufficient evidence to confirm a causal hypothesis; and

(iv)   'Double Decisive Test' or necessary and sufficient evidence to confirm a causal hypothesis.

T-RES Constructs as "Hoop Tests"

I adapted Process Tracing for the application of the T-RES Framework. The seven constructs of the T-RES Framework provide the necessary hoop tests for measuring social change. Using the Process Tracing terminology, theoretical frameworks are hoop tests or necessary prior causal knowledge about the complex social problem of interest. For example, to use the "policy detective" inspiration of Process Tracing, there is prior knowledge and experience on how to solve a crime. These are theoretical hoops that point to necessary causal processes such as: (i) the mode of entry, if in a residence, (ii) the fingerprints of the assailant, (iii) possible motives, and (iv) possible alibis. Using such a model, the T-RES Theoretical Hoops for a process of social change from adversity to wellbeing are (Annex B.3 provides more detailed descriptions):

(i)   Complex social systems involving agents and structures and their causal powers.

(ii)   Social adversity

(iii) Assets amid risks

(iv)   Collective awareness and commitment

(v)   Personal action and empowerment

(vi)   Collective action and community betterment

(vii) Structural change and scaffolding.

Passing the above T-RES theoretical hoops does not confirm a causal hypothesis. Additionally, case specific empirical data must show sufficient connection between the causal process (social activity, event) and the outcome of interest (e.g., violence prevention).   This is the "Smoking Gun" test in Process Tracing. [25] New, surprising and context-specific evidence must also provide clues regarding the social activities, events, social entities that contributed to and caused the outcome. Together, the T-RES Theoretical Hoops and the case-specific "Smoking Gun" data would pass a "double decisive" test that tells a compelling and rigorous causal story.

Qualitative data is then assessed against any new and surprising evidence pointing to a sequence of change within the study at hand. Through the T-RES Framework, we assess the necessary components of transformative social change. "Necessary" in Process Tracing does not mean "must be." It means, that based on prior knowledge we expect to find "this" …but we might not.[26] Both finding and not finding evidence aligned to the T-RES theoretical hoops merits an explanation; both results can inform the causal process in each context. Also, new or surprising evidence can point to context-based forces for or against the desired social change.

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[25] This is precisely the reason for the name given to this test: "smoking gun." This can be sufficient empirical evidence that person X killed victim Y; however, it is not enough to disconfirm another hypothesis: that person Z was the assassin (X and Z were present when Z fired the gun, Z run away, and left X next to the gun and victim Y). It is an unfortunate term and example, given this thesis' focus on adversity, and on violence prevention, in particular. However, the name "smoking gun" has become standard in the literature of process tracing. The main message, however, is that this test refers to "sufficient empirical evidence" tying social activity or series of events to an outcome.

[26] As noted before, the seven T-RES constructs are not components of a grand, predictive 'theory', but rather abstracted guidance from prior knowledge on social change from resilience findings and Bhaskar CR.

Lastly, in Process Tracing, attention is also paid to (i) the level of confidence (high, medium or low likelihood to be true); (ii) the range of confirmatory evidence; and the (iii) possibility of systematic bias in the qualitative data collected (the respondents had a reason to lie).[27] Even in single cases, these three levels of confidence can be assessed through our theoretical knowledge and empirical triangulation: How convincing is this argument (in relation to other data collected)? What other evidence exists that aligns to this causal story? How credible is the source? (Bennett, 2014; Mahoney, 2016).

> Empirical observations (o) are not, however, equal to evidence (e). All observations are not created equal, with some observations holding more information than others. Therefore, observations have to be evaluated before they are turned into evidence, and we have to assess their inferential value through our (theoretical and empirical) knowledge (k). As such: $e = o + k$. (Barnett & Munslow, 2014, p. 20)

Summarizing, the T-RES Framework provides the theoretical "hoops" considered "necessary" for the process of social change. However, the T-RES alone cannot confirm a causal hypothesis of complex change for a specific context. Additional case-specific evidence is needed. Theoretical frameworks, however, do help. Prior knowledge provides researchers with guidance on where to turn their initial attention, whom to interview, and which data to collect, among others. Local knowledge can be assessed for confidence and rigor in informing a causal process.

Recommended T-RES Analytical Sequence

Lastly, to operationalize the T-RES Framework and to engage with empirical evidence and theorizing, four levels of qualitative analysis are proposed: two empirical (mapping and describing) and two theoretical (tracing and inferring). The product of this sequence of analysis is the uncovering of the causal mechanisms related to the outcome of interest. The four sequential analytical steps are (also see figure 4.3):

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[27] As with any rigorous qualitative research, trustworthiness and authenticity must be sought (Lincoln & Guba, 1986). The conventional tests of validity and reliability include "exploring the truth value of the inquiry or evaluation (internal validity), its applicability (external validity or generalizability), its consistency (reliability or replicability) and its neutrality (objectivity) (ibid., p.16). However, qualitative research achieves this through emphasis in "trustworthiness and authenticity" (ibid.).

(i)   **Mapping** the complexity of a social problem (for example in education in

emergencies) and context of interest;

(ii)   **Describing** the social activities and key social entities related to an outcome of

interest;

(iii)   **Tracing** the patterns of purposeful social practices leading to an outcome; and

(iv)   **Inferring** the underlying causes and powers of the social entities involved

Figure 4.3
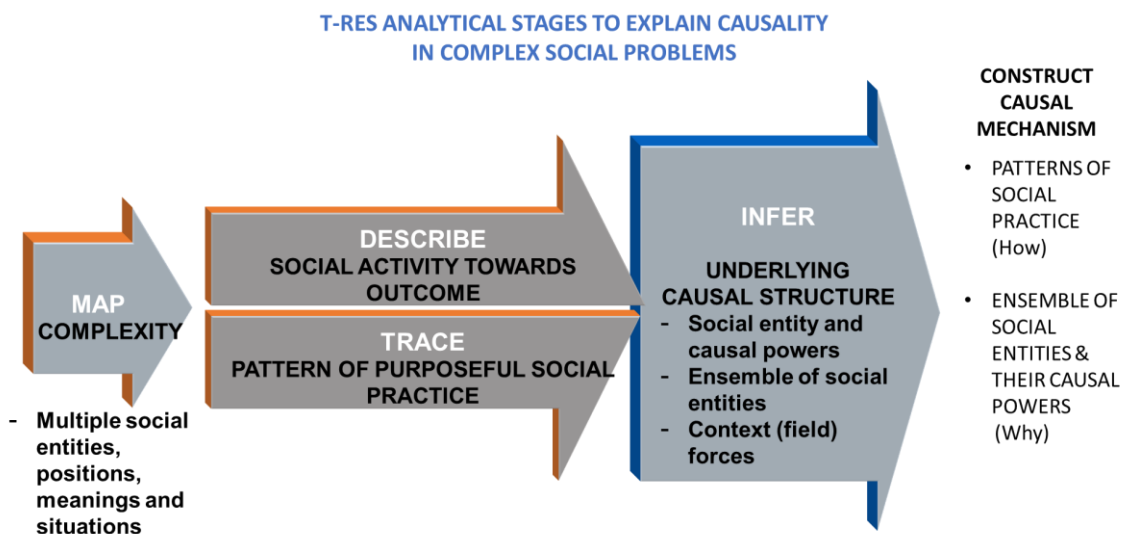
For the above analytical sequence, two other methodological approaches are used in

conjunction with Process Tracing: situational analysis ((Clarke, 2005) for mapping

complexity, and critical analysis to uncover hidden sources of adversity and maladaptive

coping. A summary of these methods is included in box 4.1, next page, and in Annex B.4.

Box 4.1. Complementary Research Methods for the Application of the T-RES Framework

Situational Analysis. Adele Clarke's Situational Analysis uses grounded theory analysis tools to create situational maps of the entities, relations and clusters involved in the context of the phenomena of interest. Within the T-RES framework, this first step is useful to visualize the complex system within which the phenomenon of interest is embedded. It makes explicit multiple social entities, their relations, multiple opinions on the questions of interest (e.g., violence and violence prevention), and how they are connected (i.e., it identifies networks).

Critical Analysis: Critical analysis has its roots in Critical Theory, which draws from the work of Karl Marx and of other scholars associated with the Frankfurt School. It originally questioned power structures, especially economic and political, that oppressed more vulnerable groups in society (Fuchs, 2015). More recently, the critical approach has been used not only on normative positions (exploitation, domination, exclusion), but also as a methodological tool to uncover hidden and underlying processes. To do so, observable events are not taking at face value, but are questioned and deconstructed to uncover underlying interests, causal powers or hidden processes.

4.5 Conclusion: Empirical Test of the T-RES Framework

This chapter provided methodological guidance to apply the T-RES Framework to research on complex social problems. Abductive reasoning can engage with the interconnected, dynamic and hidden processes of complex problems. It does this by using iterative analysis across theory and empirical data. Process Tracing was adapted to include the seven T-RES constructs as part of its hoop test of what should be expected in a social change process. Also, the descriptive and theorizing iterations are facilitated by four stages of analysis when applying the T-RES Framework: mapping, describing, tracing and inferring.

Next, Part C tests the T-RES Framework empirically by examining the efforts of schools in El Salvador to prevent or mitigate youth violence.

PART C: DEMOSTRATING THE T-RES FRAMEWORK IN AN EMPIRICAL CASE

Overview of Part C

As indicated in Chapter 1, this thesis follows a theory building and testing methodology. Part C tests the constructs of the T-RES Framework developed in the earlier parts to this thesis. It does so through an empirical demonstration of a case of violence prevention in schools of El Salvador.[28] This overview presents the analytical approach to testing the T-RES Framework and then the research design specific to the demonstrative case from El Salvador.

The Analytical Approach for Testing the Framework Developed

The objectives of this theory testing phase (Lokke & Sorensen, 2014, p. 67) for the developed T-RES Framework are to:[29]

i. assess how well empirical findings aligned to the proposed constructs and relations of the T-RES Framework;

ii. illuminate the T-RES conceptual components that help best to explain the phenomena of interest (change from adversity to wellbeing); and

iii. revise the T-RES conceptual framework itself based on (i) and (ii) above.

To this end, a demonstrative case is analyzed against the seven constructs of the T-RES Framework (see figure 5.1, next page). These constructs can be categorized across three broad processes of social change from adversity to wellbeing: (i) complex interdependence across agents and structures; (ii) collective understanding of adversity and assets, and collective commitment; and (iii) transformative action (personal, collective and structural).

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[28] At the outset, it is important to emphasize that the primary objective of this demonstrative empirical case is to test a theory; it is not a 'case study' as methodologically understood through its different techniques (Stake, 1995; Yin, 2008; Burawoy, 2009; Yazan, 2015). Here the empirical case is secondary to the primary concern of testing the T-RES Framework with empirical data (Stake, 1995, p. 437).

[29] See chapter 1, Section 1.4: Design: Aims, Research Questions and Methodological Approach to Build and Test Theory.

Figure 5.1
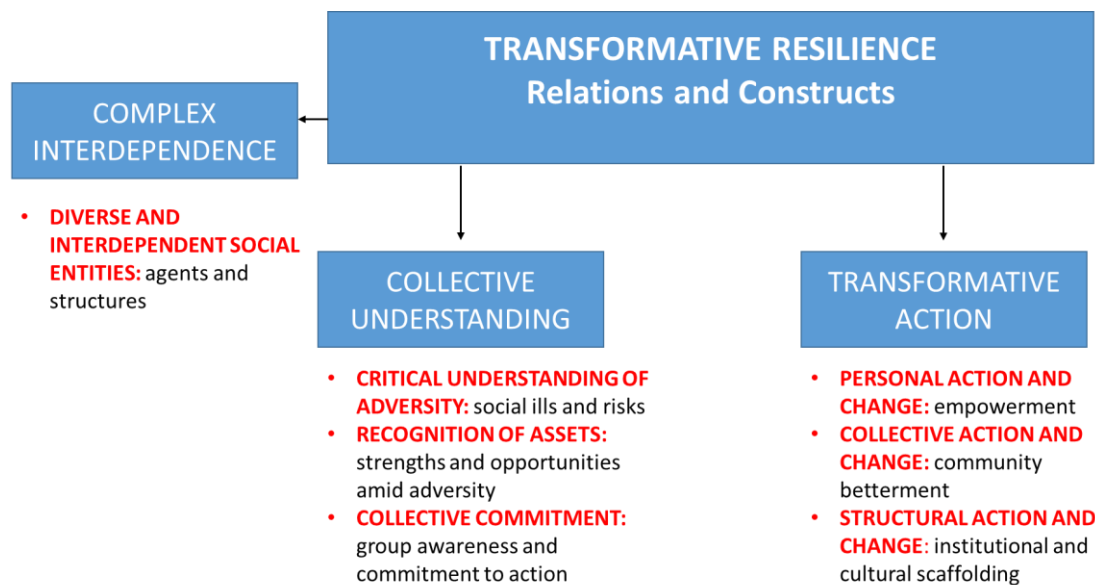
Testing the T-RES Framework in an empirical case also illuminates the value of a qualitative causal analysis. As proposed in Chapter 4, qualitative causal analysis requires an interplay between theory, empirical data and theorizing. Through abductive reasoning, causal inferences ("what needed to happen for this to occur") require the integration of existing knowledge (deduction), new context-based knowledge (induction), and inferences of causality (retroduction) to explain how and why a situation (outcome) occurred (Mingers, 2012, p. 860).

At this point, it is important to restate that I have adapted Process Tracing to be used along the T-RES Framework. Two core tests in Process Tracing are in line, respectively, with the deductive and inductive analysis proposed by abductive reasoning:[30] (i) the "Hoops" test based on known conditions for the causal process of interest; and (ii) the "Smoking Gun" test to inductively analyze new contextual data connecting a social event or process to the outcome of interest. In my adaptation, the seven T-RES constructs provide the "Hoops" tests to analyze deductively a complex social problem seeking change from adversity to

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[30] As noted in Chapter 4, the other two tests are 'Straws-in-the-Wind" test or additional pieces of related data, and "Doubly Decisive" test showing evidence for both "hoops" (prior knowledge) and "smoking gun" (context-based knowledge) tests.

wellbeing.[31] Thus, I call these constructs the "T-RES Theoretical Hoops."

Specifically, the qualitative causal analysis in the demonstrative case follows this analytical progression: (i) descriptive analysis of the complexity of violence and the interacting agents and social structures in El Salvador; (ii) tracing of social activity leading to the outcome of interest (violence prevention); and finally (iii) inferences of how and why violence prevention or mitigation is achieved, or not. Each analysis is tested: Chapter 5 focuses on mapping the context of violence in El Salvador and describing the schools in the study; Chapter 6 looks at tracing school activities for violence prevention; and Chapter 7 concentrates on inferring the causal mechanisms at play.

Figure 5.2, below, shows the descriptive and theorizing analysis interplay for the application of the T-RES Framework, which governs the structuring of the chapters in this part of the thesis.

Figure 5.2

T-RES FRAMEWORK ANALYTICAL SEQUENCE DESCRIBING AND THEORIZING

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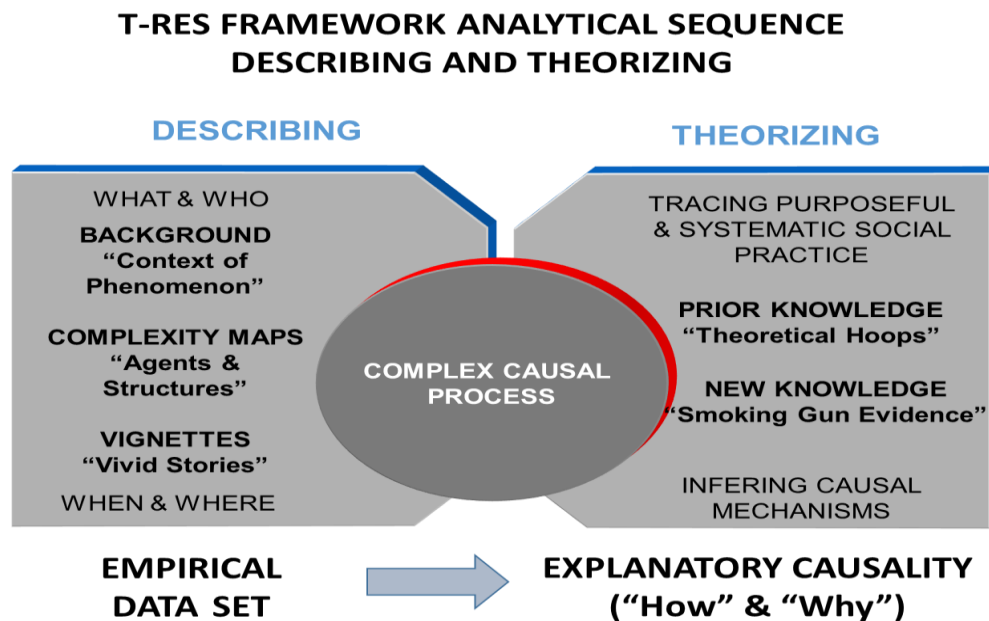
[31] A "smoking gun" analysis will not be done. It would require a full and detailed case study method to conduct it appropriately, which is not the intention here. The thesis conclusion, Chapter 8, will provide some next steps to use the T-RES Framework on a full case study, including the four process tracing tests (Hoops, Smoking Gun, Straws-in-the-Wind, and Doubly Decisive).

El Salvador Data Collection Design

Based on the above analytical testing framework, the specific design for the demonstrative case of El Salvador, including its research questions and field work, is presented here.

Case Specific Research Questions

The empirical application of the T-RES Framework is guided by the case-specific questions listed below (the chapter in which each question is addressed is also listed):

1) Chapter 5: What are the complex inter-relations across actors and social structures involved in the education settings for the violence and violence prevention/mitigation[32] efforts in El Salvador?
2) Chapter 6: What is the collective understanding of violence in schools, and of the assets available for positive change?
3) Chapter 6: What are the personal, community and structural changes that can contribute to violence prevention in schools in El Salvador, and the contextual forces that facilitate or inhibit them?
4) Chapter 7: What emergent causal mechanisms explain how and why school practices lead to violence prevention?

Sources of Empirical Data: Participants, Settings and Data collection

Purposeful Sample.[33] Empirical data comes from the following types of participants in the education context of El Salvador:

- **School level participants:** teachers and principals in violence affected schools.
- **Education system level participants:** local researchers, influential policy makers, and experienced program designers.

These were purposefully selected as influential actors in changing policies, practices and behaviors that could determine the role of education in violence prevention. They provide "analytical benefits" to the phenomena of interest (Lokke & Sorensen, 2014, p. 71). For the testing of the T-RES theoretical hoops, I selected school level participants with direct experience in violence mitigation and prevention activities. However, to map the

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[32] I use violence prevention and mitigation interchangeably. Although the aim is to eradicate violence and prevent it from resurfacing, the daily efforts of schools aim to mitigate and reduce violent behaviors. Violence reduction outcomes ultimately are a process of social efforts to eradicate and prevent violence in El Salvador.

[33] Purposeful samples select participants with direct experience with the phenomenon of interest (Maxwell 2010; Patton, 2010).

complexity of the context of youth and school violence in EL Salvador, a broader set of system-level participants were selected. Chapter 5 maps this context. For the empirical testing of the T-RES Framework, Chapter 6 uses data from principals and teachers in three schools locally known for their violence prevention efforts. See box 5.1, below, for sample details.

Box 5.1 T-RES Demonstrative Case: Sample Size and Breakdown
The breakdown of a small (N=21) purposefully selected sample of El Salvador education stakeholders interviewed is: • Ten teachers and school principals from five schools affected by violence (three of the schools were selected for in-depth data collection, including school visits, and analysis); • Two senior policymakers with a long-term trajectory of service in El Salvador dating from the 1992 peace accords: one served under Arena (right) and the other under the FMLN (left); • Three local researchers: two from the education field and one from violence and security issues; and • Six local planers and program designers—Salvadorans who have worked with international agencies in the country.

Settings: First, the complex context of violence and education in El Salvador will be mapped. Within this broad setting, the qualitative in-depth analysis focuses on three schools implementing activities to prevent or mitigate violence. The school is the "open system" studied, and therefore principals and teachers from the three studied schools will be the key informants. Other system actors were interviewed to understand the contextual complexity.

Data Collection: The empirical data was collected through interviews and focus groups (mainly with teachers). Also, three schools were visited, which provided opportunities for non-participant observations of interactions across school actors. I also participated in two conferences related to violence prevention (one organized locally by a multilateral agency and the Ministry of Education of El Salvador; the second was an international conference attended by Salvadoran participants). Secondary documents were also consulted, including

studies conducted by local researchers and diagnostic literature of violence in El Salvador and of prevention programs.

The process of data collection included supportive local "gatekeepers," both for access and protection when visiting violence-affected schools and gang-controlled communities.

Data Analysis

As noted above, I moved analytically from description to theorizing. Using abductive reasoning, I abstract the empirical findings to levels useful for other contexts. To achieve this progression from empirical findings to theory, I map the context of violence in El Salvador; describe the context of the three schools implementing activities to prevent violence;[34] trace systematic school practices that purposefully aim to mitigate or prevent violence; and infer causal mechanisms of how and why schools can (or cannot) prevent youth violence in El Salvador.

In addition to adopting process tracing methods (Pouloit, 2014; Bennett & Checkel, 2015; Beach, 2017), I also use methodological guidance from Situational Analysis (Clarke, 2005) for the mapping analysis, and some Critical Analysis (Smith, 2006; Pizzo, 2014; Vandenberghe, 2014) to question normalized events and to uncover deeper motives and hidden influences that can affect a process of change. Annex 5.1 provides some initial instruments I developed as part of this thesis to code qualitative data for an abductive causal analysis.

Trustworthiness and Authenticity (Validity and Reliability)

In qualitative research, Lincoln and Guba refer to the traditional validity and reliability research criteria as "trustworthiness" and "authenticity" (1986). Trustworthiness includes the credibility of findings and transferability to new situations. The collection of data in El Salvador included a long, intermittent engagement of five visits over three years, through which trust was built with respondents. This resulted, for example, in secure access to a gang-controlled school. In addition, data from interviews was triangulated with in-school observations, and participation in various local conferences on school violence and

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[34] I used "vignettes" for the general description of the three school settings. There are different meanings and explanations for the use of vignettes in qualitative research (Barter & Renold, 1999). Here I use it as a short story intended to vividly capture a theme, characters or setting. It captures the complexity of a situation with detail to provide an empirical background for deeper iterations of theoretical and empirical analysis.

prevention. I was able to interact with a mix of actors (teachers, principals, staff from NGOs and international agencies, and policy makers) and get their views on the causes of violence, its possible solutions, and the role of the education sector. The overall focus of my thesis is to provide rigorous qualitative causal analyses to support transferability of findings. This includes uncovering causal mechanisms, through iterative theory and qualitative data analysis, and building middle-range theories of school violence prevention that can be transferred. The aim is not for other contexts to repeat the same activities (policies, programs, interventions), but to design their own strategies based on knowledge of how and why change took place elsewhere.

For authenticity, the research process is well documented, leaving an "audit trail," including the proposal, interview guides, data analysis guides, transcripts, and field memos. For conformability,[35] findings and interpretations from an interview or a focus-group session were conveyed in a second meeting for feedback from the participants. Data collection also stressed 'fairness' in capturing all different views equally, including those of marginalized and silenced persons. For example, this research included a school controlled by gangs, from which primary data is usually limited due to security and other constraints.

Ethics and Positionality

The Sussex University Ethical Review Committee approved my ethical review application prior to the beginning of data collection in El Salvador, in line with my proposed research design, sample, and data collection parameters. In El Salvador, I paid attention to my positionality and power differentials (Rowe, 2014), especially because I had worked in the country before as a World Bank team leader. In my interactions with teachers, I provided full disclosure and mitigated the impact of differences in status by (i) openly disclosing from the outset my status as a PhD researcher (and not as World Bank official); (ii) relying closely on local "gate keepers" who belong to a network of teachers and had limited connections with international agencies or government; (iii) double-checking my interpretations with teachers after interviews and focus groups; and (iv) following up interviews with school visits (where teachers had more control of our interactions and agenda). I reflected

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[35] Conformability refers to the degree others agree with or corroborate the interpretations and findings of a research process (Nayab, n.d.)

constantly both on my behavior and expressions, and I also kept a diary of my interpretations of findings and the data collection process. I had to manage my insider-outsider role in the development and EiE fields (as World Bank staff and INEE member vs. my role a researcher). I tried to keep some healthy distance and emphasized methodological rigor especially for my critical arguments. The aim was not "objectivity" as proposed by a positivistic paradigm, but constant reflexivity and appropriate distance.

Organization of Part C

The T-RES demonstrative empirical test is organized as follows:

- Chapter 5 tests the first T-RES theoretical hoop: Complex Interdependence of Social Entities. It visualizes the complexity of the interdependent relations across agents and social structures (institutions and culture) connected to school and youth violence in El Salvador. It maps the context of violence in the country by coding broadly the interviews with researchers, staff from NGOs and international agencies, and policy makers, in addition to data from teachers. It concludes with the introduction of the three schools and teachers to be studied in Chapter 6.

- Chapter 6 tests the alignment of the empirical data collected in schools to the T-RES 'theoretical hoops' related to "collective understanding" (risks/adversity, assets and collective commitment) and "transformative action" (personal action and change, collective action and change, and structural action and change). Here, the descriptive analysis leads to tracing systematic patterns of social activity that are purposeful (aimed at the outcome of interest: violence prevention). It tests how well the demonstrative case data aligns with each of the T-RES hoops.

- Chapter 7 further theorizes from the empirical data by showing the utility of the T-RES Framework to infer causal mechanisms noting the "how" and 'why' of change. To infer the "how" component, a broad (step-by-step) process of social practices contributing to school efforts for violence prevention is proposed. For the 'why' component, this chapter makes inferences of the causal powers of the social entities participating in the step-by-step process. This inferential analysis makes use of the three levels of "reality" proposed by Bhaskar's Critical Realism: Real, Actual and Empirical.

CHAPTER 5— THE BACKGROUND AND COMPLEXITY OF VIOLENCE IN EL SALVADOR

This chapter tests the first T-RES theoretical hoop: Diverse and Interdependent Social Entities. Its intent is to surface the complexity of a social problem. It first introduces the context of violence in El Salvador and, then, maps its complex networks of relations across agents and structures. Within this complex context, it describes the vignettes of the three schools implementing violence prevention activities for a demonstrative study. In addition to the information provided by teachers in the three sampled schools, the contextual mapping uses data from a broader set of interviews with researchers, policy makers and staff from agencies working in the education sector.

The chapter is organized as follows: Section 5.1 presents a general background on youth and school violence in El Salvador. Section 5.2 maps the complex networks related to violence. Section 5.3 maps the range of opinions on causes of violence and solutions. Section 5.4 provides vignettes for each of the three schools whose violence prevention practices will be traced in chapter 6.

5.1 El Salvador Country and Education Context

El Salvador is geographically the smallest country among the seven Central America nations; it is 11 times smaller than the United Kingdom and 20 times smaller than California. A quarter of its 8 million citizens have migrated, mainly to the United States, as a result of the 1980s conflict and, more recently, because of gang and criminal violence. Remittances, which represent about 17% of the country's GDP (World Bank Group; KNOMAD, 2018, p. 40), support the families left behind.

During its civil war (1979–1992), approximately 80,000 lives were lost. The Truth Commission (mandated by the U.N. which brokered the peace agreement) attributed 85% of the acts of violence to state agents (UN Security Council, Annex, 1993). The combatants signed peace accords in 1992. Although the Peace Accords did not include specific targets, El Salvador increased its pace of educational access and equity, especially in rural communities (Marques & Bannon, 2003; Meza, et al., 2004).

Various international development agencies recognized El Salvador as a case of best practice in education reform (DiGropello, 2005; Desmond, 2009; Jimenez & Sawada, 2014). Others have critiqued the post-civil war education reforms (Edwards, 2018), especially

because they consider some of the education programs to be an imposition by international agencies.[36]

Independent of how one evaluates the veracity of the above-mentioned education advances, while the Ministry of Education of El Salvador was being lauded for its innovative post-war education programs (DiGropello, 2006), a new form of violence was emerging. By the end of this century's first decade, violent youth gangs and transnational crime had become a huge problem (Arana, 2005; Cruz, 2010).

During the civil war, a large percentage of Salvadorans migrated abroad. In the United States, especially, these immigrants moved into impoverished and oppressed violent neighborhoods, where they were impacted by the North American youth gang culture (Bruneau, et al., 2011, p. 22). To adapt and to protect themselves, Salvadoran immigrant youth formed their own gangs, most prominently the MS-13. "MS" stands for "Mara Salvatrucha," Spanish slang for "El Salvador Gang" (The Times Editorial Board, 2019; InSight Crime, 2019).

In 1996, the US Congress passed the Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA), which facilitated the deportation of undocumented migrants, as well as legal immigrants with criminal records that included minor offenses such as shoplifting and possession of small amounts of illegal drugs (104th US Congress, 1996). This provided law enforcement authorities with an easy solution to the problem of immigrant-dominated gangs like as MS-13 (Arana, 2005). With their deportation, the US exported a new form of violence to Central America: gang violence (Hazen & Rodgers, 2014). (Wolf, 2011).

Political violence had declined following the signing of the peace accords in El Salvador, but violence against vulnerable groups such as women and children continued and increased. Added to this, through the last decade of the 20th century, human rights and US intelligence

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[36] Edwards, for example, considers a conflict of interest the fact that the World Bank helped El Salvador to launch EDUCO, a community-participation program in schools, and itself evaluated its impact (Edwards, 2018). Other local policy makers and researchers claim that EDUCO was scaled up from homegrown "community schools" that kept education services during the war, especially in isolated rural communities (Meza, et al., 2004; Desmond, 2009, p. 15).

reports noted the increase of armed and well-organized criminal gangs (United States Department of State, Bureau of Public Affairs., 1993-1996). However, in El Salvador, this new form of violence was not immediately recognized as a social threat until years later. The UN began to cite El Salvador, along with Guatemala and Honduras, as a country with one of the highest homicide rates in the world, especially amongst youth (World Bank, 2011; UNODOC, 2017, 2019).

Violence affected the education system heavily. The 2015 school census by El Salvador's Ministry of Education noted that 62% of the 5,132 schools surveyed reported psychological and physical violence, and other forms of bullying. An indirect statistic that demonstrates the almost universal concern with violence is that 91% of school in the country reported that teachers had organized themselves to monitor the use of school bathrooms to prevent rape, extortion and the sale of drugs (MINED, 2015, p. 11) (MINED: 11). Other reports noted that many students had left school due to violence threats, and that others had moved out of their homes to hide from gangs' vendettas and recruitment (Creative Associates International, September 2015; InSight Crime, 2016).

Today, the education sector in El Salvador is debating what can be done to transform the violence that affects the country: How can education contribute to violence prevention? Why should we believe that education can contribute to prevent violence?

5.2 Mapping the Complex Social Ecology of Education and Violence In El Salvador

To embrace complexity within a qualitative causal analysis, one methodological approach is to map the diverse social entities related to the social problem of interest. For the above context and evolution of violence in El Salvador, this section maps the many different actors, communities, institutions, and settings involved.

Mapping as an Analytical Approach to "see" Complexity

The mapping process for the T-RES Framework has two aims: to show the diverse social entities involved and to bring to the fore the varied assumptions in El Salvador regarding the causes of violence, areas to consider for violence prevention, and the supportive roles that education could play. Two types of maps are prepared: (i) complexity of agents and

structures (noting interacting networks and entry nodes[37]), and (ii) diverse meanings of the causes and solutions of violence. Figure 5.3 describes graphically the T-RES mapping process.

Figure 5.3

T-RES MAPPING OF COMPLEX SOCIAL PROBLEMS

COMPLEXITY MAP	MEANINGS MAP

INTERDEPENDENT SOCIAL ENTITIES

- **Social Entities:** agents, collectives, institutions
- **Networks:** connections and nodes

- **Adversity:** cause and sources
- **Wellbeing:** assets and potential solutions

MULTIPLE OPINIONS
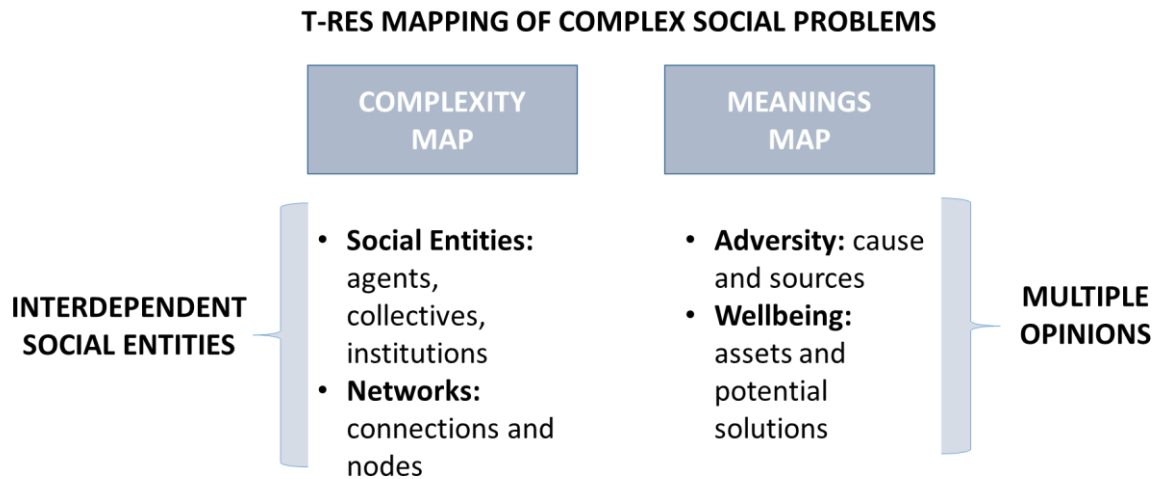
Networks: Diverse Social Entities Interacting with Schools

The first level of complexity is shown in the multiple types of individuals, groups, organizations, and systems that are interacting in the context of youth and school violence in El Salvador. This includes not only the school and gangs, but also criminal organizations, community members, government (central and municipal), non-governmental organizations, and international agencies. Figure 5.4, next page, summarizes the coding of different agents and structures noted by participants. Subsequently some of their comments are summarized.

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[37] A "node" in complexity science is a critical social entity at the intersection of various networks of interactions across many other entities (Liu, et al., 2016).

Figure 5.4

Complexity of Agents and Structures in Education Amid Violence in El Salvador

CRIMINAL ORGANIZATIONS
- Narco-trafficking
- Other criminal activity
- National
- International

YOUTH GANGS
- Maras' culture
- Turfs (18 & MS)
- Internal organization and member roles

ACTANTS (Things)
- Public spaces
- Arms
- Drugs
- Alcohol

SCHOOL SETTING

ACTORS: students, teachers, principals, parents

ORGANIZATIONS: school management committees (CDE), teachers committees

ACTANTS: physical infrastructure, learning environments, [un]safe spaces

COMMUNITY
- Children and youth
- Families
- Neighbors
- Citizens
  - Vulnerable
  - Influential

GLOBAL LEVEL
- Bilateral & multilateral agencies
- Technical assistance
- Financial support
- Knowledge & evidence

MACRO LEVEL
- State
- Private Sector
- Justice and Legal
- NGOs
- The media
- Academia & research

MESO LEVEL
- Municipalities
- Communities (ADESCO)
- Police
- Academia

Complexity of Agents and Structures Within the School

Complexity exists even within a single school. Students, teachers, principal and parents represent individual actors[38] with their own assumptions about violence and violence prevention. Each also plays different roles depending on their different social networks. For example, schools in El Salvador are organized through school management committees, parent-teacher association, and teacher committees. Gangs have infiltrated these school structures.

> …and I am telling not only my story, but that of the principal in the neighboring school… the Treasurer for the CDE [the school management committee] …knows all the financial movement in the school, and my school is small, only 174 students; there are bigger schools even with 700 students and the financial transfers from the Ministry are considerable. But the husband and son of the Treasurer went to jail, and she said, "listen I need to send the fees for the meals in jail and need to borrow

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[38] Initially, I refer to individuals as "actors", as their 'agential' roles in reproducing or preventing violence has not been identified yet. "Actors" is, thus, used as a generic term of individuals playing a role in a social ecology.

some money [from the CDE]." The principal said, I don't have any. The Treasurer

said I know you sold some uniforms. The Principal had to give her [US $]100

(Principal in a gang-controlled community).

Some teachers claimed that places and material objects also play a role in violence. [39] In schools, the infrastructure is conducive to violent activities in dark halls, bathrooms and other non-secured places. Students would bring arms, knives, alcohol and drugs to school, and this had prompted security guards or police and metal detectors in the most violent schools. Even the clothes they wear can pose a risk.

I am going to explain to you the signs: there are two types of Nike shoes…[one] like a

boot with the Nike symbol, black, right? And the other white regular tennis shoe;

no, excuse me, black regular tennis shoe with the Nike symbol in white. This means

that if you are wearing one type of shoe you are from one gang, and the other from

the other. It is the same thing with the handkerchiefs [bandanas]…. so, one has to

be careful when approaching them… (Teacher at an all-girl public school).

Culture was a critical structural entity. It can normalize violence or contribute to its prevention through the collective beliefs, behaviors and values shared. In the schools studied, some teachers sought non-violent behaviors by creating a culture of collaboration and team work among both teachers and students. However, team work was also noted as a challenge.

Let me tell you that one of my challenges here is not being able to work as a team, as

in my previous school. A lot of teachers that are transferred to my school are

teachers that other schools do not want (School principal in a San Salvador suburb).

I am going to tell you something about those participative pedagogical practices.

What we have learned is that violence came because us [teachers], youth and

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[39] Following Clarke (2005)'s advice, complexity maps can also identify "actants" or things that can contribute to violence or its prevention. In the case of this demonstrative study, this include public spaces, arms, drugs and alcohol.

children ended up apart and excluding each other, or making others less or hurting them (Teacher at a San Salvador public school).

Complex External Networks: Ministry of Education, Municipalities, Universities and Local and International Organizations

External to the community, the main structural entity is the education system, including the laws, policies and services provided by the Ministry of Education. However, support from central government institutions seems to be limited, especially for schools with the greatest exposure to gang violence.

> The Ministry [of Education] has no idea of the situations we work in [in gang-controlled schools] and this is one of the reasons we are limited in violence prevention. Also, I spent almost two years without electric power in the school, and one day the Ministry donated me 11 computers…. I had to ask for a temporary power connection, but only for 6 months and it will be cut off again if I don't pay 1,708 [US] dollars. Related to violence, they [the Ministry of Education] has sent only 5 school psychologists to the 30 schools in the municipality. …. given the violence that we experience in schools we need two types of psychologists, a clinical psychologist [for trauma] and one for prevention (School principal).

There is also a macro and global context related to violence and its prevention. Nationally, the state, universities, private sector, non-governmental organizations (NGOs), and other institutions provide services to schools, including for violence prevention. In the interviews for the study, teachers mentioned support from some universities, bilateral programs (such as USAID, JICA, etc.), UN agencies, and even individuals.

> What I am saying is that the NGOs not only complement the Government's job but in many occasions are the only institutions that do the work; also, local governments, like the Municipality of Santa Tecla have done very interesting work for citizens' security. And there are alliances with the private sector. More controversial are the communities that have organized themselves to protect their neighborhoods, like "auto-defensas" (armed community patrols) (Local violence researcher).

Critical Nodes: Schools and Gangs and their Multiple Interactions

Mapping presents complexity, but also helps to identify key nodes as entry points for analysis. Mapping a complex network of actors can help identify key agents or structures as entry points to influence change. Complexity science calls these "nodes." Thus, a related map (see figure 5.5, below) shows the school-youth gang inter-relations as most proximal and critical.

Figure 5.5

Example of Complex Interactions and Entry Nodes Related to School Violence

SCHOOL-GANG-COMMUNITY NODES

SCHOOLS Interacting with:
- Gangs
- Communities
- Municipalities
- Private Sector
- Families
- Psychologists
- Service Providers

TEACHERS Interacting with:
- Gants
- Students
- Other Teachers
- Families
- Community
- Ministry Staff
- Service Providers

GANGS Interaction with:
- Students
- Teachers
- Schools
- Parent Committees
- Community
- Community Associations

National and Global Structures Interactions

GOVERNMENT
- Right and Left Political
- Citizenry/Communities
- Clients
- Resources and Service Providers
- Courts, Police, Jails

BILATERAL & MULTILATERAL AGENCIES
- Government
- Private Sector
- NGOS
- Communities
- Schools

Knowledge and Information Networks

UNIVERSITIES
- Schools
- Communities
- Government
- International Relations

MEDIA INTERACTS WITH
- Communities
- Politics
- Private sector

Critical Gang-School Node: Teachers and Students

Teachers and students directly interact with gang members and their community, activities and culture.

> Basically, the children [my students] are part of the [gang] structures in an indirect way… …the father of one child probably is jailed, and [could] still be the leader of the gang from the penitentiary (Teacher in a gang-controlled community).

Teachers gain the trust of gang-controlled communities by interacting with them and by supporting the families of their students.

I had an old car, and since taxis are afraid to come into the neighborhood, when someone had to go to the hospital, I had to lend my car to my students' families. I told them that I can let them borrow it during an emergency but not for illicit activities. I had to make many trips to the hospital with pregnant girls and even when a gang member was hurt. Little by little I gained the trust of the community.

In gang-controlled schools, teachers advocate for resources and knowledge to implement violence prevention and mitigation strategies. From their own resource, teachers even provide in-kind support (meals, educational materials) to their most vulnerable students.

What about school resources? Nothing. In public schools, everything depends on the teacher and the principal. Financial resources are very little. All is our efforts, with external organizations, with private companies… I've had to prepare and send up to 40 request letters, and he [a university professor] has helped [to apply] for a project. The resources are for my Robotics project, for girls…. I even have to help my students with basic needs. I have a student that went through a radical [positive] change, but now she has to leave school after finishing 9th grade. We have been helping her to pay her school lunches all year (Robotics teacher at an all-girl public school in San Salvador).

In their role as parents and community leaders, gangs even evaluate and authorize teachers to work in the schools located in gang-controlled areas.

My second day of school, they [gang leaders] took off my clothes and searched me because they said I looked like a policeman. …they had disappeared the husband of another teacher, but the point is that I was able to overcome this situation with the support of another colleague that introduce me [to the gang], that I was not a police officer but a teacher well-recommended (Teacher in school of San Salvador).

I told a teacher that, in school, in addition to teaching you must care for and treat kindly the students. If you maltreat a student or a family member, you will get into a lot of trouble [with the gangs] (Principal in a gang-controlled school).

Teachers are affected by the insecurity in the community, and principals claim that the good teachers leave.

Last time a newly transferred teacher, who was really great, told me she had to leave the school due to security concerns. She moved to a private school, which pays less, but she said that she was always stressed thinking about what could happen to her in the community (School principal).

Gang Parents and Families Interacting in the Community and in Schools

The neighborhoods and community organizations where school staff, students, families and gang members interact are also critical nodes. In their external context, schools are in the middle of larger communities of youth gangs and criminal organizations. In unsafe neighborhoods, for example, deadly gang turf fights are common. Also, guns, drugs and alcohol are easily available.[40] Public safe spaces are limited, as parks and other recreational activities that exist in some communities have been overtaken by crime and gang fights. Violence has become normalized.

My school is in the center of San Salvador, [but] that does not mean that it is not violent. They just killed someone very close to school. The principal tells us not to run errands alone [in the street]. In our school, some [female] students are involved with gangs. We cannot get involved (teacher is in focus group) … [My sector] is controlled by narco-traffickers; with them no one gets involved (teacher is in focus group). We closed the school year fine; one student was killed but outside, not in the school (Teacher in a focus group).

Schools are especially interconnected with youth gangs, through parents and families. Older gang members have children of their own and demand schooling for their children.

Education is important for gangs; very probably because the gang member does not want his son, nephew or cousin, or whatever, to follow his footsteps. The problem is that context will pull you in and the only way to survive in this cement jungle is to join a gang, and then even the mother becomes a part of the [gang] structure, because the mother receives money from the extorsions and other illicit activities…

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[40] These material objects are called "actants" by Clarke and defined as inanimate objects that can play an influential role in a causal process (Clarke, 2005)

and this becomes a "modus *vivendus' [a way of life]* (Local education and violence researcher).

Youth gangs are intrinsically part of the community (families and neighborhoods), schools and the social and economic activities of towns and municipalities. They interact with school principals, teachers and school management committees.

> The small convenient store in the school is managed by the wife of the "palabrero" [the gang contact in the community] …. What I want to say is that unfortunately many in the community are related to the gangs, and they see the school as their own. By the way last time you [the researcher] were here a guy came to say hi to you…he was the one that was in jail. They use the school to hide. Also, the girl that charges the "rent" [extortion money from small businesses] was here. In the school government in my own school, I have three members that are very close to the gang leaders (Principal in a gang-controlled community).

Gang Culture Influencing In-School Relations

Gangs, as an organizational culture, are also a crucial node to understand how they affect school violence in El Salvador. Principals and teachers benefit from understanding the internal structures of gangs (Wolf, 2011; Rogers & Baird, 2015), called "maras." This includes special terminology and organizational roles. To protect their turf and areas of influence against other gangs, "maras" assigned special roles to members, including students. For example, a "canal de gotera" ("leakage") has the role of transmitting messages from imprisoned gang leaders; the "poste" ("pillar") is in contact with other gang members monitoring any strange movement in the community; and the "palabrero" ("the talker") formally disseminates gang messages in the community. Principals and teachers working in schools in gang-controlled neighborhoods must learn the nuances of gang culture and abide by their rules.

Gangs reward loyalty and punish unacceptable behaviors. Yet, gangs also protect teachers and the school when good relations and trust are maintained.

> In spite the high level of violence, we are protected [as teachers]. For example, last time when I got to the school, I found the windows opened and the school materials

that we had just received were gone. Then the gang leader called me and just said "give me a list of everything that was stolen" that they [gang members] already knew who had broken into the school [principal in gang-controlled school].

You know, some of the students work for the gang leaders. They have their own rules. Last year when some of the older students disrespected us, the gang leaders reminded them of the gang rules and that they needed to respect the teachers (Principal in a gang-controlled school).

However, gangs also threaten principals and teachers if, for example, they mistreat a student who is a gang member or talk to the police. The punishment may include assassination.

Teachers are victims of the affliction [lived]…. Look at this data, a little of what you see in the media: four teachers and 17 students assassinated, this is just in the month of July this year. [See:] a teacher kidnapped in the first page [of this newspaper]; this year the harassment of gangs in schools continues (Local education violence researcher).

Whoever calls attention from the police is punished. They also told us that no teacher could have relations with the gang next door, nor live in the same neighborhood. Also, if a teacher wanted to contact the [police], he needed to ask permission from the gang first. For example, they stole a computer from the school a few days ago. They [gang leaders] authorized me to notify the [police] so "the Ministry won't screw you up." It's all about surviving in these types of communities. The Ministry of Education does not have an idea of what this is (Teacher in a gang-controlled community).

Global Criminal Networks

Finally, the broader set of interviews with non-school actors also pointed to the role of international criminal organizations. These include the internationalization of gang membership and narcotrafficking. Both benefit from the endemic youth violence in El Salvador. The international crime context, thus, is another potential node to understand.

Now violence… is associated with more global and regional reasons, which are harder to combat and influence. There are sufficient signals that there is a network of organized crime, narcotrafficking and other forms of [illicit] accumulation of wealth that instrumentalize certain social segments and give strength to our growing violence (Policymaker).

The above-described multiplicity of agents, structures and their interactions leads also to complex and diverse views on the causes of violence and the solutions, to which I turn next.

5.3 Tensions of Meaning: Causes of Violence, Areas of Solution and the Role of Education

Complexity is also evidenced on the diverse views on the causes of violence, the solutions, and the role of education in violence prevention. To surface these inherent tensions, the T-RES Framework maps the diverse opinions regarding a complex problem.

Complex Causes of Youth Violence in El Salvador

Among the many causes of violence in El Salvador, some participants alluded to a continuation of violence from the civil war, now in the form of youth and gang violence, and emphasized the unresolved structural factors, such as poverty and social marginalization. Others blamed institutions, especially the state, for limited or inappropriate interventions for violence prevention. Yet others noted that violence today had a cultural component that could not be explained solely by poverty and exclusion, while some blamed the families and individuals. Examples of these different views are provided below.

Structural Violence Continued After Civil War Ended

Claims that the civil war did not solve structural problems, such as poverty and access to social services, were often made.

It [the civil war] is over and we are all happy. No more bullets or bombs. The war is over and no more violence…, but in the post-conflict, a different type of violence remains. There is violence because people need to eat, to work…; they have needs. The country did not change because we had a civil war… (Policymaker).

Others noted that criminal groups and corruption provide the national and international structures that produce and reproduce violence in the country.

I will give you a concrete example. The government, the politicians, congress should be the one to send the correct message: we respect the law… But this message is never delivered; rather they say "I do whatever I want" but not the people. That is, I [as Government or politician] make others respect the law, but I don't…. Congressmen are involved in illicit activities and nothing happens, at most they leave the country (Violence researcher).

Culture and Violence

Most participants made diverse comments related to a culture that normalized violence. This included references to the media (e.g., TV programs, news, telenovelas), to acceptance of violence as tool to resolve interpersonal problems, and justification of other forms of violence such as corruption and child corporal punishment as "discipline."

We have seen in the country that with violence we achieve things. Do you want political power, be violent…! During the war, the saying was that only through force one can reach the negotiation table…. Violence also helps to achieve other things. You can discipline your kids and have a well-behaved family. It helps create order. Even it helps to resolve our traffic problem: the most aggressive driver with the bigger car has the right of way (Violence researcher).

For example, popular soap operas glorify drug traffickers' lives, like "Cartel de los Sapos" and "El Señor de los Cielos," [names of soap operas], and the message you are giving to the youth is that [it] is better to be a narco-trafficker than to study a university career [University professor providing training on violence prevention].

Fractured Families and Communities

Almost 1/3 of the population of El Salvador has emigrated to other countries. Parents tend to leave their young children behind with their extended families (grandparents, uncles/aunts). Participants commented that this has fractured families and children are growing up without guidance.   Also, extensive urbanization has eroded community life and belonging.

We have a quarter of our population abroad; families are disintegrated. Did we do something? No. The head of the family left. The mother is working. And there is the

kid alone, waiting to be recruited [by the gangs]. How are we going to protect these kids? (Expert in local agency).

Disfranchised Youth and Violence

Growing up alone, in a violent context, and with limited opportunities for work and livelihoods, were seen as propelling youth to become part of gangs and enter a life of crime and violence. For youth, gangs also provided protection, contributions to family income, and financial resources to become a consumer (buy clothes, athletic shoes, etc.). One participant noted that adults take advantage of the needs of belonging and support of adolescents and youth, coopting them into gangs and crime.

In a 2014 study on jail inmates in El Salvador, 30% of them did not know their father or mother; 37% left home when they were 15 years of age; one of five girls between the age of 10 and 18, take care of younger children… (Expert in local agency).

Youth violence is not necessarily generated by the youth themselves. There are adults behind it…. In one school, the principal told me that about 40% of students are already involved in gangs, and usually there is already an adult family member already involved in gangs and crime (Expert in local agency).

Education System Avoided the Violence Problem in Schools

Most participants claimed that initially (after the end of the civil war) the education system in El Salvador did not recognize the threat of gang and youth violence. More recent efforts have focused on keeping children in school (as a protection strategy), but there are limited violence prevention policies, programs and resources. Youth violence today is having a detrimental impact on education outcomes, especially access and retention.

I believe the education system avoided the topic of violence in the 1990s. Then they said it was not the responsibility of the school. For many years, the ministry [of education] did not believe violence was such a huge problem…. (Expert in local agency).

The above-listed range of opinions on the causes of violence is complex; these are systematized in Figure 5.6, below.

Figure 5.6

COMPLEX CAUSES OF YOUTH VIOLENCE IN EL SALVADOR

FAMILY & COMMUNITY FRACTURED
- Broken families
- Family and intimate violence
- No adult-child bonds
- Displacement
- No sense of community
- Migration

CULTURAL VIOLENCE
- Violence as instrument
- Continuum of violence across social levels
- Symbols and media reinforce violence
- Youth gangs justify violence

YOUTH VIOLENCE
- Becoming of age and immersed in violence
- Youth gangs and consumerism
- Families condone violence as source of income
- Youth violence coopted by adults
- From youth violence to criminal violence
- Crime uses, needs and perpetuates violence

VIOLENCE IN SCHOOLS
- Education system initially did not recognize violence
- Focus on keeping children in school but not addressing roots of violence
- Continued growth of violence: schools most violent today
- Violence prevention efforts in some schools with limited support of policies, programs, resources
- Violence has impacted education outcomes: development in reverse

STRUCTURAL VIOLENCE
- Violence residues from civil war: peace accords only for political wins
- Fragile institutions & inefficient services
- Global narcotrafficking
- Neoliberal model
- Single solutions for complex problems
- No relevant laws and long-term policies

Complex Views of Solutions to Violence in El Salvador

Solutions to violence were as equally broad as the views of the causes. Moreover, for each structural, cultural, institutional, and individual cause, there was a corresponding view of a related solution. For example, if the problem was culture, the solution proposed was a range of interventions that would address shared beliefs, behaviors and norms.

> Our country has a valuable culture. Why not do cultural festivals, rescue our traditional costumes, why not rescue our own? In El Salvador, people prefer to eat hamburgers than "pupusas" [local street food], or a Coca-Cola instead of our traditional drinks. Everything is about our life styles. [We need to rescue] our creativity and assertiveness. In rural areas, you see that people get up at 4 a.m. to work. This is hard work. We need to rescue all of this to confront violence (Politician).

If the main cause of urban violence and crime was believed to be fractured inter-personal relations, the solution was the recovery of public spaces. The example of "Paseo del Carmen" was noted; this is a secure plaza with street vendors and places for children to play.

Let me tell you that in Santa Tecla, the Mayor… converted an abandoned area into Paseo del Carmen which now has become a touristic area. Don't you think that a country that rescues its culture can reduce violence, attracts investment and more tourism? What I am trying to say is that we needed to generate more social cohesion and transfer to our new generations harmony and peace, even to play sports or a youth orchestra (Politician).

Simple Solutions for Complex Problems

Some participants stressed single and isolated solutions such as more security and subsidies. Others claimed these solutions, implemented in isolation, led to more violence instead of prevention. The civil war itself, and its narrow political aims, was given as an example of an isolated solution.

> The peace accords disactivated the political factor that led to civil war, but they did not address the commitment to decrease poverty, increase education, reduce social marginalization; there were no structural changes. There were political and party related wins, but not at all in other structural needs (Violence researcher).

The most noted single and isolated solutions for violence 'prevention' was the "mano dura" policy. This called for the incarceration of any youth showing 'signals' of gang affiliation such as tattoos or dressed in baggy clothes (Hume, 2007). Youth gangs were considered criminal organizations. This policy accentuated violence: inadequate prisons were filled with youth and served as spaces for further gang indoctrination and recruitment. Gang leaders continued to manage gang activity from jail.

> The models we have had [to mitigate violence] have been very repressive, all led by the police, like everything is going to be fine with more police, with better police, with more police cars, better armed, and the answer is "no." That is the story we had with "Mano Dura", "Super Mano Dura", then the "anti-gangs" law. Security included repressive police tactics and even getting the army involved. And everything has failed. It's been 20 years [of] failing. We must try something else (Senior education researcher).

Maras at first were considered a group of dysfunctional young people because they came from fractured families. But those initial groups later became criminals for extortion, kidnapping, homicides, and now we are in the Latin American ranking, if [not] in second place, [then] fourth or fifth of homicides per capita. And now we don't feel safe walking on the street (Politician).

Even the in-kind subsidies (backpacks, shoes, etc.) which the Ministry of Education provides to low-income children are seen as only a minor palliative, as well as the peace marches organized by the government (there are claims that public workers were "pressed" to attend these marches).[41] Figure 5.7 lists the range of areas that participants noted were important to violence prevention, as well as some of the simple solutions that have already been tried unsuccessfully in El Salvador.

Figure 5.7

RANGE OF PROPOSED SOLUTIONS TO YOUTH VIOLENCE AND FAILED 'LINEAR' INTERVENTIONS

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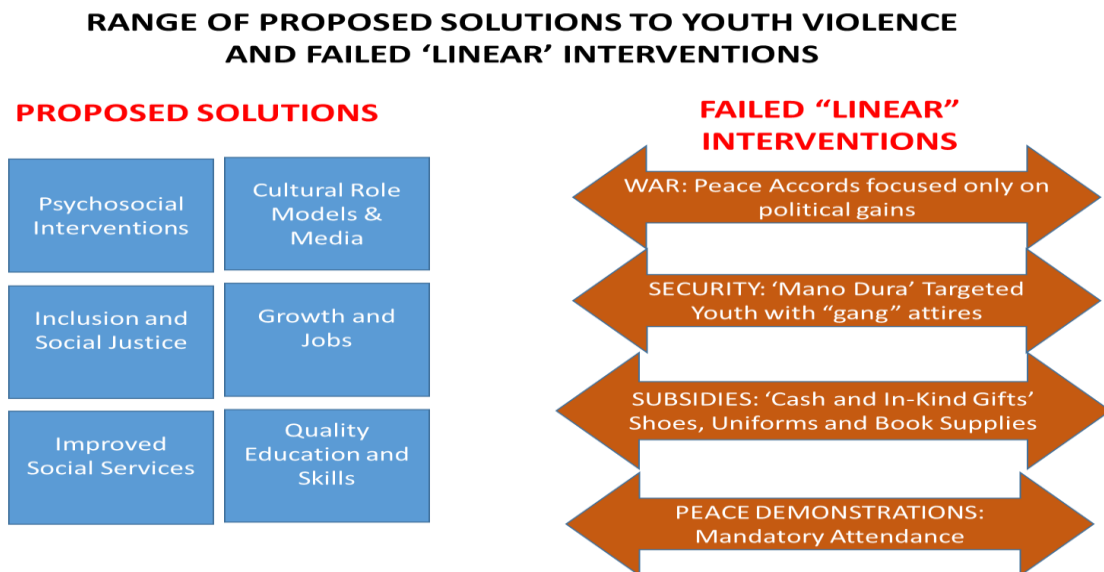
[41] Comments made by some interviewees but also see: https://elsoca.org/index.php/america-central/el-salvador/3652-el-salvador-marchas-forzadas-del-fmln and https://www.elsalvador.com/noticias/nacional/147868/piden-a-directores-llevar-a-los-alumnos-a-marcha-por-la-paz/

Education Role in Preventing Violence

Lastly, many participants stressed the contributing role of schools in violence prevention. These include a range of pedagogical strategies and tools to teach peaceful living skills and provide at-risk students with opportunities for development. Interventions such as remedial courses, arts and sports, supervised free time, and cognitive and social skills were noted.

School climate and discipline were considered critical to promote non-violent behaviors. The school was central, not only for pedagogical practices, but also for psychosocial support. Figure 5.8 presents a range of promotive and protective school contributions coded from a variety of participants' responses.

Figure 5.8
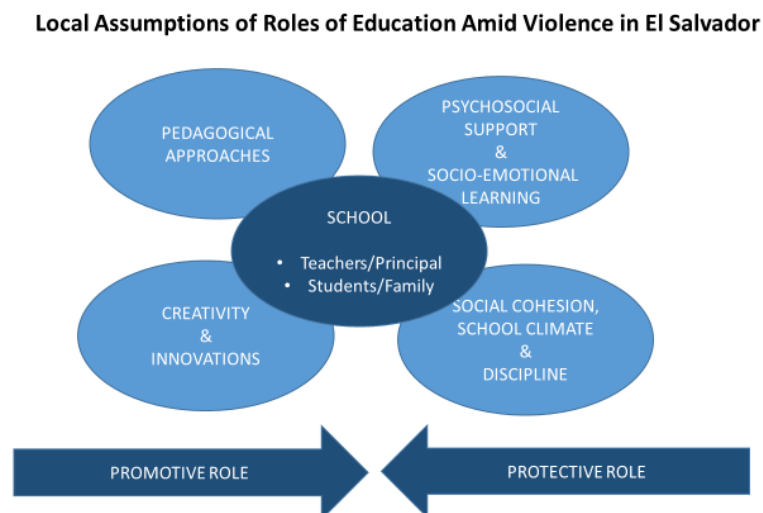
Yet, schools alone cannot contain the alarming crisis of extreme violence affecting communities and classrooms across the country.

> There was news the other day that a student was murdered with at least 50 bullets. This was done in a school. Schools are weak in the face of such violence. It is time that we began to build a pedagogical model that can help solve violence (School violence researcher).

There was almost a full consensus on the need for more institutional support. The Ministry of Education, municipalities, NGOs and international organizations were called to provide

more services, especially for protection and livelihoods (employment, skills, decent wages). Alliances with and referrals to external providers was suggested as one way to provide these services.

> At the school level, the little we do, we do it with support of other nearby schools. Until this year I have been working without budget from the Ministry [of Education]. Another dream we had with the community was to open middle school grades. I enrolled children, but I don't have the teachers. If I don't get them, I am going to have to teach the grades, even if it is once a week (Principal in a gang-controlled school).

5.4 From Mapping System Complexity to the Violence Prevention Stories of Three Schools

The intention of mapping the context of violence in El Salvador was to uncover the complexity of this social phenomena. It is not intended to understand or explain all the aspects of such complexity. However, in this test of the first T-RES Hoop ("complexity and interdependence of social entities"), mapping does illuminate the complexity of youth and gang violence, and its prevention, in El Salvador. Its complex context includes many diverse social entities that interact to reproduce or prevent violence. There are also many views of the causes and solutions for violence in El Salvador. This is the complex context in which an individual school must navigate to find resources and direct their efforts for violence prevention.

Now we turn, to the experience of three schools in El Salvador attempting to mitigate youth and school violence in the above complex context. These schools are the unit of analysis for the empirical demonstration of the T-RES Framework. Thus, this final section presents a vignette for each of the three schools selected and of the teachers interviewed to learn about their efforts to mitigate violence. Each story is captured in Box 5.1, Box 5.2 and Box 5.3, below. The names of individuals and locations have been changed. These schools represent three different scenarios:[42]

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[42] I conducted interviews with 10 teachers from these schools, as well as with the local researcher who initially recompiled information on the violence prevention activities in 14 schools in El Salvador, including the three schools in the study. His work is not cited to protect the anonymity of schools and participants, given the sensitive information provided about gangs.

- Box 5.1: A committed principal in a school within a gang-controlled community;
- Box 5.2: A teacher managing a special school program (robotics) for at-risk female students; and
- Box 5.3: A school with two motivated teachers making ad hoc efforts to prevent violence in their classroom (no other support from their school).

Box 5.1 – School Principal in a Gang-Controlled Community

Oscar is a principal of a school that serves a gang-controlled community in a low-income community. Gang members with families and children requested a school in their neighborhood; now, they also support the school and provide protection to teachers. The principal, himself, comes from a humble home and worked low-skilled jobs to pay for his university program to become a teacher. Throughout his teaching career, he has experienced violence and the control of gangs in schools. He recounted many explicit experiences of violence, including students being assassinated on school premises, teachers who disappeared, rapes, and other criminal activity.

Oscar is now the principal of the school in "Colonia Montes Altos." When I visited him at his school, he had to secure permission from the gang leaders for me to enter the community. When I arrived, students received me with a song, and the pre-school and first grades all lined up to give me a welcome hug (one by one).

Oscar works closely with his team of teachers and the community. With his teachers, he stresses that their own behavior and values will be reflected in how they treat students, and how, in turn, students behave. He has asked the Ministry of Education to replace teachers when they don't conform to this school's rules of conduct and their approach to building a "culture of peace" in the school.

His work with the community means that he works with gang leaders and their families. As principal he not only supports activities inside the school, but also tries to help the community access social services (vaccinations, sports and cultural activities, etc.). Community leaders, who are gang members, recognize the leadership of the principal. Oscar mentioned an occasion when a computer was stolen and the gang members recovered it. Or when the main gang leader called from prison during a school meeting to tell the older students that they had to obey the principal: "I give the orders outside of school, but Principal Oscar gives them inside the school".

However, there is another side to this close school-community relations. Gang members monitor the school (there is always someone "watching") and vet new teachers to make sure they are not police or connected to rival gangs. The families of gang members participate in the school management committee, have information on the school budgets, and at times "borrow" financial and other school resources. Violence is always an option for gang members to solve any problems with non-conforming teachers.

Yet the aim of Oscar and the teachers is to provide students both an academic and 'functional' family environment. Values, non-violent behaviors, and positive ways to solve conflicts are stressed in and outside the classroom. Teachers plan classroom

activities to reinforce values of empathy, creativity, goal setting, and solving conflict. They plan guided recess where positive peer behaviors can be practiced, and if any form of violence is triggered (fights between students), these can be solved "just-in-time".

The principal's biggest complaint is that the Ministry of Education does not provide enough resources, and they probably do not know about their efforts to mitigate and prevent violence at the school.

Box 5.2 - Teacher in a Special School Robotics Program for At-Risk Female Students

Julio is a teacher at a large school (about 2000 students) for girls in downtown San Salvador. He has been a teacher for 10 years. Classrooms are overcrowded with a ratio of 45 students to one teacher. There is violence in school, including gang turf fights. Students wear special color socks, bandanas or shoes to identify the gang to which they belong. Some students are pregnant.

Julio manages a special robotics program and enrolls mainly at-risk students with behavior problems and in very vulnerable life conditions. The school has won various national and international competitions. In addition to robotics, the teacher uses the program to advise students, to coach them and to listen to their life problems and goals. However, Julio cannot help all of his students overcome their challenges. He says: "we have built trust and provide support in the classroom, but outside of school we cannot intervene." Many of his students leave the program, and even one of the winners of an international robotics competition dropped out of school. Yet, Julio believes that the program has impacted his students' lives in a positive way.

He has partnered with some university programs on violence prevention, and they have given presentations to his students. There is also one school psychologist—but for 2,000 students. Teachers at his school have not been directly affected by violence in the way other schools have: physical aggression, rape, assassinations, and other issues. However, a recent anonymous post on the schools' Facebook page asked about the career level of teachers at the school and their salaries.

Box 5.3 - Teachers Attempting to Mitigate Violence in Their Own Classrooms

Mario and Edgar teach at a public school in an upper-class neighborhood in San Salvador that serves low-income students. They have participated in some workshops on school violence prevention provided by a local university and are attempting to influence more positive behaviors of students in their classrooms, albeit with limited support from their own school.

Both teachers claim the principal of the school is not interested; his perception is that their school is "not as bad" as other schools in San Salvador. They point to the limited leadership and school capacity for violence prevention activities. Edgar is frustrated and says that "for the violence problem, there is no longer a short or medium-term solution…. We want to do things [for violence prevention] but we are stuck." When asked about strategies to mitigate violence in school, he notes that schools and students have "lost values."

Mario and Edgar also claim that the Ministry of Education does not offer much help (for example, there are only two pedagogical advisors for up to 60 teachers). There is only an informal support group on violence prevention in schools, which includes a local university researcher who advises them and shares instruments for violence awareness and mitigation strategies in the classroom. Their efforts focus on personal interactions with their students: building trust, treating all students the same, advising on both academics and life goals; and at times, even providing some financial support for books, pencils and other needs.

Edgar still feels that discipline is important, and that new legal regulations to protect the rights of children and youth—such as Lepina (Ley de Protección Integral de la Niñez y Adolescencia)—limit disciplinary action in schools. Students and parents claim their rights are "violated" if a teacher disciplines a student's violent behavior. Furthermore, his main concern is education and the type of citizens schools are producing: "If the ministry forces me to pass a student, even without the minimum knowledge, then I am not only fooling the student, I am deceiving the parents, society…. There are students in fifth and sixth grade that cannot write…" Mario notes that there are many intelligent students and "andan de vagos" (roaming the streets), alluding to involvement in gangs.

Mario is also a physical education teacher, in addition to being a classroom teacher. He uses sports to teach values and to help his students resolve conflicts and disagreements without fighting. Edgar reminisces about the schools of the past, noting that there are no longer Civic Mondays, where all students, from preschool to high school, sang the National Hymn, pledged allegiance to the flag, and sang and danced to traditional Salvadoran music. Both agree that the prevention activities in school focus only on "keeping students busy," giving them less time to roam the streets.

Conclusion of the Mapping and Descriptive Analysis

The testing aims of this chapter were two-fold: (i) to see how well the empirical data from El Salvador aligned with the first T-RES theoretical hoop ("complex interdependence of social entities"); and (ii) to test the mapping and descriptive analysis proposed by the T-RES Framework.

The data seems to confirm the complexity of interdependent relationships across schools and gang-controlled communities. Teachers and students interact daily with families and parents, who are also gang members. There is also a broader context, both national and transnational, that influences youth and gang violence. Opinions on the causes of and the solutions to violence are equally complex. Considering methodology, the background, mapping of context, and detailed vignettes provided a useful way to "see" the complexity of youth and school violence in El Salvador.

In general, the first T-RES theoretical hoop seems to be confirmed by the empirical data from this demonstrative case. Subsequently, Chapter 6 will test the "tracing" of the purposeful social activities in three schools seeking to prevent violence, as well as protect their students and support their wellbeing.

CHAPTER 6. PURPOSEFUL SYSTEMATIC PRACTICES FOR VIOLENCE PREVENTION IN EL SALVADOR SCHOOLS

The aim of a qualitative casual analysis is not only to describe but to trace the social practices intended to achieve an outcome of interest. It is in social activity that the T-RES Framework claims a causal process is actualized. By tracing the social activity related to an outcome of interest, the researcher can proceed to infer the causal mechanisms that could be transferable to other contexts (this inferential approach will be tested in chapter 7). Together, the tracing and inferring analysis uncover the 'how' and the 'why' of change. This requires analytical iterations of empirical data and theorizing.

This section traces the purposeful and systematic practices for violence prevention in the three schools studied. By doing this, it tests the six T-RES theoretical hoops within the two remaining conceptual relations: (i) "collective understanding" of risks, assets and collective commitment and (ii) "transformative action" at the personal, collective and structural levels. Methodologically, the tracing analysis within the T-RES Framework is also tested.

Chapter 6 is organized as follows: Section 6.1 explains the analysis of "purposeful systematic social practices." Section 6.2 identifies the violence prevention or mitigation aims of the schools. Section 6.3 tests the usefulness of the six remaining T-RES theoretical hoops to identify purposeful systematic practices for violence prevention in the schools studied. Section 6.4 provides some chapter conclusions.

6.1 Tracing Purposeful and Systematic School Practices for Violence Prevention

As noted in Part B, social practices are the core analytical units for complex causal analysis in social systems (Schatzki, 1996; Reckwitz, 2002). For the T-RES Framework, I call these "purposeful systematic social practices." Social activity is purposeful when it is intentional; that is, it seeks a purpose or has a goal or aim. In causal qualitative research, identifying such intentionality at the outset is critical (Freeman, 1999; Hartwig, 2015).

Also, social practices that tend to be repeated to achieve a purpose are "systematic." This does not mean that exactly the same behavior is carried out each time. There may be different forms of behaving that seek to actualize the same underlying causal process or causal mechanism (Cartwright, 1995, 2007). For example, for the purpose of student

learning, a teacher could promote teamwork through a variety of behaviors, such as grouping students in roundtables, creating student committees, or giving project-based assignments. They are all systematic practices seeking to actualize one causal process: teamwork. Critical realism calls these purposeful systematic practices "demi-regularities," noting that they only point to an underlying causal power or mechanism (Pinkstone, 2002; Dalkin, et al., 2015; Zachariadis, et al., 2013).

With the support of the T-RES theoretical hoops, the tracing analysis in this chapter identifies purposeful systematic practices for violence prevention in the three schools studied (the how). Chapter 7 will delve with their underlying causal capacities and powers (the why).

6.2 Violence Prevention Outcomes in Three Schools Affected by Gang Violence

To explain the complex causality of a phenomenon, the qualitative researcher starts by identifying the outcome of interest and then asks: "what needed to happen for this to occur?" (Tavory & Timmermans, 2014). This section identifies the violence prevention outcomes expressed by the teachers in the sampled schools. There are mainly four: non-violent behaviors, educational outcomes, protection and wellbeing. These outcomes are discussed next.

Foster Non-Violent Behavior in School

Violence prevention efforts in the schools in the study focused on behavioral changes that promoted a culture of caring and support, peaceful resolution of conflict, social cohesion, and restorative discipline. Fostering non-violent behaviors was a daily outcome. Although conflicts and problems did occur, and disciplinary actions taken, the aim was to show the students that the school cared about them.

> We don't expel anyone from school. It is not because we are afraid, since the gang's "palabrero" (spokesman for the gang leaders) made it clear that from the school door [that] I write the rules; they do outside. But rather I want to teach students that there are consequences, if I take away their recess, or they cannot join sports during physical education. Also, I send a note to the mother, even if parents are not committed [to their discipline]. The purpose is a commitment between the student and the teacher. We want to motivate those students that have the most

difficulties, to support, to give them extracurricular activities (Teacher in a gang-controlled community).

The difficult cases are for me, as the principal. Fortunately, I received a two-year program on violence prevention at the Universidad Centroamericana and they gave us some techniques to deal with problematic students. [With the rest of the school], we pray at the beginning of each school day; we even explain to students that are atheist that this is important even if one is not Christian. The same for the "Civic Monday," where we all reflect [on our behaviors] …and they [students] lose the fear of public speaking…. (Principal in a gang-controlled community).

Help Students have a Positive Educational Experience

Relevant teaching and learning took a more holistic meaning in the schools and classrooms of teachers committed to prevent violence. Pedagogy became the instrument to, both, teach and support the socio-emotional needs of students; teachers claimed this led to non-violent behaviors. Teachers who were interviewed had a clear goal of providing positive educational experiences to their students, as well as a space for play, caring and support.

Our proposal is that from the pedagogical plane, if we do it in a playful and creative way, where the child plays …, where the classroom becomes a family, there are caring teams, with space to share and play, [then]… even if we are studying for the PAESITAS [a standardized test for primary grades], we are contributing to peaceful living… There is no need to separate these things [goals] (Teacher in a focus group).

You know, the child gets motivated… [but] if we continue teaching with the traditional way, dictating lectures, [then] you are mentioning many other things that go beyond just making sure children are in school…; [We need to make sure]… that they learn, that they know how to write…; we are talking about the psychological needs, the games during recess, music…; it is so important to have these things especially in the most difficult contexts, and [that] the child learns and stays [in school] (Teacher in a focus group).

Protect Students from Violence

The physical protection of students is an indirect goal of schools in settings affected by violence. Just having children in school, rather than on the street, provides some level of protection. During the interviews, the teachers acknowledged the risks their students face and said that they tried to make them feel welcome and protected in their classroom and schools.

> We have many students that work. Some work in the street restaurants. They come to school tired and hungry. When I meet them, I have to be aware of where they are coming from and support them and build trust. I need to know why they are late, who they live with. If I get mad at a student, and he said my dad drinks and hits me, and throws me out of the house [in the middle of the night] and locks the door. We as teachers work in a "mined camp" [outside of school] which impacts the human psyche of our children (School Teacher).

> There are still schools in this country that don't belong to anyone. We had to seek support from institutions and municipalities, and involve the community, to open space for gang members to study. We even have to intervene when the police come and treats our students badly, and this showed to the community that we [school staff] really wanted to help them (School principal).

> This community lacks protection for their children. There is a lot of people in churches, but their sons are the gang leaders. The school tries to help a little, but it cannot solve all the violence (School teacher).

Wellbeing of Children in School and Community

The wellbeing of children seemed to be one of the ultimate outcomes sought by teachers and principals who support violence prevention. This included not only their physical protection, but also their sense of self-esteem, purpose, and overall psychosocial wellbeing. Teachers had to focus on both academics and socio-emotional activities.

> Those students that have tendencies towards gangs, I have tried to entertain them with sports; we have participated as school in a [sports] project by the American Embassy and police. …. but I think we are falling short of the [psychological] needs.

Related to violence, they [the Ministry of Education] has sent only 5 school psychologists to the 30 schools in the municipality. …. given the violence that we experience in schools we need two types of psychologists, a clinical psychologist [for trauma] and one for prevention (School principal).

There was a teacher that abused psychologically these students, rather than contributing to make things better in the community and that people involved in these things [gangs and crime] actually have a better opinion of teachers… part of our work [as teachers] is to be committed and not to disrespect parents and students (School principal).

Conclusion on Violence Prevention Outcomes. Informed by the teachers in the three schools studied, their violence prevention goals can be operationalized as follows:

- Non-violent behaviors expressed
- Quality and relevant education provided
- Signals of student wellbeing emerged
- Neighborhood and students protected

It is important to note that the T-RES Framework also proposes a critical analysis of the qualitative findings. Related to the violence prevention in schools, Box 6.1, below, shows an example of how critically analysis can be incorporated into the tracing process. To achieve the above-mentioned goals in gang-controlled schools, there was a compromise between the rules of the school and of the gangs.

Box 6.1 – Critical Analysis: Mutual Respect of School and Gang Rules
From the perspective of gang leaders and gang-controlled communities, there seems to be a mediating purpose of school-gang relations: to uphold gang-related rules in the school and in the community.   [Some]... students in our school work for the gang leaders. And they have rules. Last year they [the gang leaders] brought them together and reminded them what were the gang rules and the respect they had to pay to us, teachers. We [school staff] have to speak through intermediaries [of jailed gang leaders]. Speaking with their family members or wives is not the same as speaking directly with them. Where I worked last time, the gang was more organized. This is most important to survive. One [as a teacher] cannot be their friend of their enemy, as we cannot be friends or enemy of the police.

Next, the Tracing analysis will identify the purposeful systematic practices in schools leading to these outcomes.

6.3 T-RES Theoretical Hoops Tests for Collective Understanding and Transformative Action

To recall, the seven T-RES theoretical hoops serve as an initial analysis of empirical data as it compares to prior knowledge of social processes that lead from adversity to wellbeing. The first T-RES Theoretical Hoop (complex inter-dependence of social entities) was addressed in Chapter 5. This section engages with the other six T-RES theoretical hoops, under the two conceptual relations of "Collective Understanding" and "Transformative Action."

Testing of T-RES Hoops on Adversity, Assets and Collective Commitment

This section tests the alignment between the empirical data from the three El Salvador schools and the T-RES theoretical hoops regarding the process of collective understanding for social change from adversity to wellbeing (see figure 6.1).

Figure 6.1

T-RES Theoretical Hoops for Collective Understanding of Social Change

T-RES Hoop #2: Critical Understanding of Adversity

As suggested by the T-RES Framework, social adversity should be assessed through critical analysis that uncovers hidden threats and vulnerabilities. Research must actively seek inconsistencies, silences, and normalizations of a problem. This test does not fully analyze the adversities in Salvadoran schools caused by youth and gang violence. It only empirically

tests and critically examines three examples of underlying or covered forces that reproduce and accentuate youth violence in schools: infiltration of gangs in school management structures, competition with criminal global networks incentivizing youth gangs, and the extreme life-and-death violence affecting teachers and students.

Infiltration of Gangs in School Structures. An underlying risk (not easily perceived) is the infiltration of gangs within school structures. As noted before, gangs members not only control classrooms but also the management structures of the school. In the school management committees (called CDE: Comités de Desarrollo Escolar), parents, teachers and principals come together to identify the needs of the school, plan activities, and manage resources, including budgets. In the violence context of El Salvador, these school bodies can become a space of influence for parents who are connected to, or are themselves, gang members.

Even from jail, gang and criminal leaders continue to manage the day-to-day activities of overall communities. This seems to be a well-organized system, including specific roles regarding who communicates messages from jail, who receives them and disseminates them in the community, and who monitors to ensure that these messages are being obeyed. One principal told me his experience when he prohibited the use of cellular in schools: "they [leaders in jail] told me it was fine to have that rule but except for one student who is the "poste" who tell us what happens in the perimeter around the school".

Close gang communication is not only for criminal activities; they include control of more mundane community and school daily life, such as the discipline of children and youth. A principal shared that:

> Last year the "palabrero" [the one that manages the communication between jailed gang leaders] told me that in the school I define the discipline. In the streets, they do (Principal in a gang-controlled neighborhood).

Competing Resources and Incentives from Criminal Activities. Another feature of the youth gang phenomena in El Salvador is that it is permeated by broader criminal networks, both in the country and internationally, especially in narco-trafficking (Bruneau, et al., 2011; Hazen & Rodgers, 2014). These criminal networks incentivize youth with financial resources

that overshadow the potential economic and social mobility benefits of education. For example, a policymaker said:

> We are not giving them [youth gang members] a decent life option; thus, the money that comes from narco-traffickers, of selling drugs, of money laundering, helps to maintain them [criminal groups]; it's a stronger force…. (Violence prevention and education researcher).

Ultimately the traditional benefits of education—employment opportunities, better salaries, and upward social mobility—are muted by better and more immediate financial rewards offered by organized crime.

Ultimate Risk for Educators is Death. Perhaps the most difficult message conveyed by teachers and principals is that the ultimate risk of their work as educators is death. Everyone interviewed knew about a principal, teacher or student who had been assassinated or disappeared. Students left school because their families are leaving the community because their children have been threatened or are being recruited by gangs. For the principal who had worked mostly in gang-controlled communities, such incidents became almost normalized:

> [1] The second day I arrived in school, they [the gangs] undressed me because they said I looked like a policeman, and a few days before they had disappeared the husband of a [teacher] colleague of mine…. [2] A well-known leader of the community had 27 days of having been disappeared, he went out a Sunday morning and never came back. A DNA testing [of a body] is being done now…. [3] the most important aim [of a teacher] is to survive; one cannot be their [the gangs'] enemy or friend…. [4] a teacher friend was just telling me that they killed two students, because they [the gang] saw them speaking to a police officer. [5] just two weeks ago, they killed the boy that brought the cooking gas cylinders; they said he has buried in the community (Teachers in focus group).

Without a critical analysis of adversity, as proposed by the T-RES Framework, the three sample findings above may go unnoticed. The participation of families from a gang-affected community in schools would be viewed only as a positive signal. However, by critically

assessing such participation, the infiltration of gang activity in school management also emerges. Similarly, the youth gang problem in El Salvador cannot be studied with only a traditional knowledge of "gangs" focused on youth culture and self-protection. There is an underlying structure of organized crime. Lastly, the stories of violence and death that principals and teachers tell do not make their way into the Ministry of Education's reports. This T-RES hoop helps to critically assess underlying forces of the adversity schools face and helps to explain the severity and complexity.

T-RES Hoop #3: Recognition of Assets amid Adversity

Resilience studies over the past 50 years have found ample evidence of assets amid risks in vulnerable individuals, communities and organizations. The T-RES Framework recognizes these assets; however, the emphasis is on using social services to foster these assets rather than letting individuals fend for themselves.

The qualitative evidence provided by the 10 teachers who were interviewed showed strengths at different levels: individual teachers, gang members, school-community alliances, external supporters (universities, NGOs, bilateral aid agencies), and even programs founded by altruistic individuals. To test this T-RES theoretical hoop I present four examples across individuals, groups, schools and community levels, and one example of a critical analysis of assets at the community level.

Individual Experiences of Resilience. Assets at the individual level seem to emerge from principals and teachers with similar experiences of resilience, such as growing up in vulnerable communities with limited resources, and being affected by violence.

> [1] I have not had time to tell you my experience. I worked as a janitor for a long time…. but this helped me study and finish my university program as a teacher…. [2] …I was happy to go work in a poor rural community, with the same characteristic of where I grew up; I had to walk 9.5 kilometers every day to get to the school; and had to buy groceries sometimes for the community and bring them with me; there was no water or electricity…. [3] … because we did not receive love and care because we grew up in a war context, where each person had to survive through their own efforts, and this is the result now…. (Teachers in focus group).

Gang Members want their Children to go to School. Most teachers noted that gang members want their children to go to school and to have more opportunities than they did. Gangs and their families lobby for school services.

> The gang leader is in jail…. but from there he calls and says that he wants his sons to study. He told me 'I don't want my kids to be like me; I need that they received a good education in school." I heard him…. But, I also know that if I do a wrong action, they will come after me (Teacher).

However, as noted in the analysis of adversity, it is difficult to separate gang culture from the way they interact with schools. Violence is always present—either to protect schools from it or to make schools abide by gang rules. This is clearly an asset "amid adversity."

School Contributions. The school has many assets to help address mitigate violence. These include its teaching staff, programs, and extracurricular activities. Teachers we interviewed use various strategies, ranging from psychosocial, social cohesion and self-esteem building activities (grounded in sports, excursions, art and culture) to spiritual activities such as school prayer and respecting the different beliefs of students. The school with the most motivated group of teachers was also addressing a more participatory and motivating pedagogy and providing catch up courses.

> You know, kids get motivated… [but] if we keep teaching in a traditional way, just dictating, no…; they are distracted by their phones, everyone has them. Once I took the most difficult student from the "canton" [a small rural area] to the city. He was fascinated and after he was the most committed student and helper…. We [also] contribute to their [students'] extracurricular activities…. a friend let me borrow a projector and children were fascinated with watching a big screen… How a school resource can change the motivation of children, as opposite to always having a blackboard and chalk…. I now bet for the student and not for the parent, because they [parents] are just used now to the [my] sermon…. (Teacher).

Community Belonging and Mutual Support. Building ties between teachers and parents and between school and community was noted as a crucial asset to provide education in a gang-affected community and to mitigate violence. One principal worked directly with all

families living in the school's surrounding neighborhood. Other teachers created different types of communities: a special interest focused on Robotics or creating a group of students and teachers interested in playing sports together. Teachers claimed this built trust and a fertile ground to agree on ways to engage with students and to support non-violent behavior.

> I had a good relationship with the community. [For example] I had a small car and since no taxis dare to come in to this neighborhood if there was a medical emergency, I would drive them to the hospital. I made sure they knew that my car could not be used for criminal activities. This is how I started to build trust (Teacher).

Community Support for Activism and Community Betterment. Close and trusting relations between the school and the community, provided confidence, knowledge and skills for communities to demand social services and to better their communities.

> The community association dreamed with having a school and when they [the municipality] presented the possibility of a project, the community decided that it had to be a school. The community committed to provide teachers with identification, so [that] they could go in and out freely from the neighborhood [since it was controlled by gangs] (Principal in a gang-controlled community).

The T-RES Framework also proposes a critical analysis of resilience assets. Organized communities advocating for social services do not necessarily leads to these being provided (see Box 6.2, below).

Box 6.2 – Critical Analysis of Community Advocacy:

Activism inhibited by non-responsive public institutions

The fact that communities gain confidence and skills to advocate for services does not mean that the services are provided. This requires change at the structural level, especially government institutions (as will be noted later in the "context field forces" section). However, it is important to recognize that these collective assets are present and contribute to an overall process of social change.

> Two years passed by for the Ministry of Education to authorize the plot of land to the community for school construction. This resulted in additional years of children being out of school. We had many overage students, including a 14-year-old in first grade (School principal).

To conclude, coding the qualitative data through this T-RES Hoop uncover more examples of assets that schools use to support education and violence mitigation. In this demonstration, examples were limited but more could be explored in an actual case study. The "assets" theoretical hoop of the T-RES Framework was helpful in extracting this evidence. Assets co-exist among risks and they can be actualized towards social change through the awareness and collective commitment of agents and structures.

T-RES Hoop #4: Awareness and Commitment

The T-RES Framework claims that social change (from adversity to wellbeing) requires awareness of the underlying forces of adversity and of the assets available for change. The prior T-RES Hoops provide the inputs for this. However, this awareness must be collective and supported by a shared commitment to the desired change (purpose, goal, outcome). Commitment is also needed for the social practices needed to achieve it.

The schools we sampled in El Salvador provide empirical evidence of the violence prevention efforts that required a shared understanding and commitment. These collective efforts can be evidenced among (i) teachers and principals, (ii) the school and the community; and (iii) in at least one case, gang members, the collective of teachers, the principal, and the school. I present these empirical examples, noting the agreed "outcomes" and the commitments to "action."

Shared Commitment among Teachers. Teachers worked together with different levels of formality and cohesiveness. At the school with the committed principal, he provided the leadership for teachers to share a common purpose: (i) to help their students have a positive educational experience and (ii) to foster non-violent behavior at school. Similar outcomes were agreed upon at the other two schools, but more informally between teachers (in school with limited principal support) and between teacher and his students (in the robotic club).

> …our bet is first personal and among teachers, aimed at motivating students, and especially those that require more academic support and extracurricular activities to engage them (Teacher).

Teachers also committed to undertaking activities to achieve their agreed outcomes. In the school with limited leadership and structured school support, teachers came together informally to share experiences, access resources (from universities and elsewhere), and to make positive changes in their own classrooms. The robotics club teacher connected with other teachers interested in science and robotics and met them at conferences and tournaments. In general, a shared awareness was emerging of the risks and assets of vulnerable students, but also that an educational experience could contribute to their wellbeing.

> …. we were 10 teachers, and worked all together almost along the same line, but we belong to a program called EDUCO (by the way, it disappeared) …. we strived to do our work the best possible way. And, also, the Parents' Committee provided great help to us…. (School principal)

Lastly, teachers across schools came together and supported each other, creating both formal and informal networks.

> For a few years I was the president of the "Network of Principals" and our model was that we supported each other, especially from nearby schools. The small resources and furniture we had, it has an effort and contributions of our "asesor" (school supervisor) and the solidarity among schools, who provided blackboards, desks and other resources they no longer needed…. (Teacher).

School-Community Partnerships. During interviews, teachers spoke repeatedly about building partnerships with parents. To accomplish this, principals and teachers had to create trust, be empathetic and provide even small supports to parents and community. This was especially noted in the school and community controlled by a gang. Here, the school and the community shared a common purpose: parents and teachers wanted education and wellbeing for the children. They also agreed on specific actions, especially strategies for protection in a highly violent neighborhood.

> All the small things we do are simple, minimum compared to the level of violence we live in; just to tell you that two weeks ago they killed a boy…. who they said is buried somewhere in the community. We do protocols with the community whenever anyone comes to visit… to avoid that someone would hurt them…. (Principal in a gang-controlled community).

Gang-School Awareness of Each Other's "Rules" and Shared Education and Wellbeing Aims. Lastly the most surprising finding within this T-RES Hoop was the alliance and mutual goals of gang leaders and educators. There was first a shared understanding of the gang rules and school rules, and a commitment for both sets of rules to be respected. Second, there was a shared goal focused on the education and wellbeing of the children. In turn, the gang protected the school, principal and teachers. Educators were committed to the gang member's daughters and sons.

> They have their rules… last year they brought them [youth gang members] all together and the leaders told them what the rules were and the respect they owed to the teachers. [For example] …there will be punishment if the police come [because of a misbehaving youth]. They [gang leaders] told us [teachers] very clearly that no student could disrespect a teacher, but there was one requirement that no teacher would belong to the contrary gang… that means that I cannot receive a teacher that lives in the zone controlled by another gang…. (Principal in a gang-controlled community).

Box 6.3 presents another critical analysis example related to field forces in context that can inhibit collective participation, awareness and commitment.

Box 6.3 – Critically Understanding "Shared" Goals in Social Systems

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The crucial process of shared awareness, commitment and community building is intrinsic to social change. However, there are antagonistic forces that can inhibit such cohesion. The 'shared' values sometimes reflect only the views and opinions of those in the group with more power, voice or influences. This is called "elite capture" in the literature (Dagupta & Beard, 2007). Thus, a collective process or awareness and commitment to goals and actions must facilitate the voice of the most vulnerable and manage the tensions of challenging traditional authorities.

Alignment of T-RES Hoops for Collective Understanding. The empirical findings from the demonstrative case showed an alignment with the T-RES theoretical hoops regarding collective understanding. For T-RES Hoop #2 (Risk/Adversity), there was emergent understanding of the risks (and personal experiences) of gang violence among teachers , including their impact on school structures and daily management. Gang culture infiltrated school activities, and the closer teachers and principals were to a gang-community, the greater the need to live by the gang's expected norms. However, there was also a clear sense of the strengths and opportunities for violence prevention, or at least mitigation. These empirical findings also aligned with T-RES Hoop #3 (Assets). Lastly, in all three schools there was a collective commitment (T-RES Hoop #4) to violence prevention, albeit in different forms and levels of engagement. At one school, the collective commitment entailed the principal, as leader, and all of his teachers. At another school with limited principal support, two teachers came together to implement violence prevention activities in their classroom and making use of the annual "Sports Olympics" for their school. At the third school, a single teacher created a collective commitment to non-violence between himself and his students within a special robotics program.

## Transformative Action: Personal, Collective and Structural Action and Change

Now I turn to the three T-RES Hoops on Transformative Action. These refer to the chain-reaction change needed across individuals, communities and institutions. Each type of social entity contributes its inherent causal capacities toward social change, and, in turn,

experiences its own transformation: personal empowerment, community betterment, and new structures aligned to the emerging social wellbeing. Each step in the process of social change must be sustained by institutional and cultural structures to scaffold efforts for change towards wellbeing, rather than the status quo of adversity.

This section, thus, tests the alignment between the empirical data from the three El Salvador schools and the T-RES theoretical hoops regarding the process of transformative action and chain-reaction change (see figure 6.2).

Figure 6.2

T-RES Theoretical Hoops for Transformative Action and Chain-Reaction Change
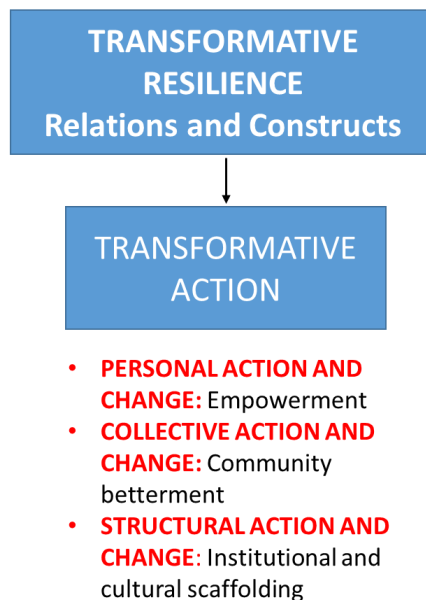
T-RES Hoop #5: Personal empowerment

In El Salvador teachers risk their lives. In such a context, it is hard to imagine that social action does not require personal agency and empowerment. The T-RES Framework proposes that individual reflection, commitment and agency are the triggers that initiate the construction of purposeful and systematic activities for social change. The ultimate outcome of this process, at the individual level, is personal empowerment.

> The help we need is for people [around the world] to know that in such a small
> country like El Salvador, so full of violence, there are persons who are working

without any personal interest ….to transform the affliction of violence…. many are teachers (Local education violence researcher).

School leaders who were interviewed had faced violence and other social ills, such as poverty; however, they had recovered, continued to function and experienced growth. These experiences of resilience—social adversity and positive change—seem to have contributed to their personal empowerment and commitment to social change.

Box 6.4, however, critically notes that personal empowerment is not purposeful neutral. For example, achieving educational outcome can be used for gang and criminal activities.

Box 6.4 – Critical Analysis: Personal Empowerment as Purpose Neutral
Critically, personal empowerment is purpose neutral. Some interviewees mentioned that organized crime may be supporting some bright youth gang members in their education, so that they could become their lawyers, financial managers and IT experts. Personal empowerment, therefore, also requires purpose setting and making decisions about goals for one's personal skills and capacities. So, what happens with the student that wants to study, get good grades, but aspires for a job within a criminal structure? He must make a choice and know what is good… and what is bad… Most probably they also don't have full choice; they have been forced to belong and stay within the youth gang. This is where the work of other institutions – not the school – is needed, to dismantle these criminal structures. Another is providing these bright youths with alternative opportunities, decent jobs… (Local education violence researcher).

The T-RES Framework also accepts that personal empowerment and actions can do only so much. It is only the entry point to collective efforts of an ensemble of empowered individuals and structural support from institutions. A local researcher supporting teacher training and instruments for violence prevention agrees:

.… I do things [violence prevention activities] with passion and this motivation helps me to act and produce; can you imagine if I had the budget that Government institutions have…. and [if I] could design public policies against violence. I was motivated by Lima [a conference on school violence prevention in Peru] but realized that even at that level [of international researchers] they do not understand the

[complex] reality of what schools are suffering, it's horrible…. (Local education

violence researcher)

 Collective efforts are needed to better communities. Community betterment provides the

impetus to advocate for institutional and cultural change. I turn to empirically test the last

two T-RES theoretical hoops: Collective Efforts and Structural Scaffolding.

T-RES Hoop #6: Collective Efforts and Community Betterment

In the empirical analysis, I identified three types of communities where collective effort for

school violence prevention took place. In one case, collective effort included not only within

the school, but also in partnership with the broader neighborhood. In another case, the

teacher formed a community among teachers and students who shared a special interest in

science, robotics and technology. For the two teachers with limited school support, their

community was their classroom. The process of building such communities, however, had

some common steps: a shared purpose, collective social action, interactions with other

groups or communities, and an emerging culture (shared beliefs, rules of behavior, and

values) that change is possible even during adversity.

> [1] You must win a space in the community, to see that independently of whoever
>
> comes [to work in the school] his/her purpose is to teach them [children of gang
>
> members] and prepare them for life. [2] Another of the dreams of the community
>
> was to have a high school this year; I don't have teachers and if they are not sent [by
>
> the Ministry], I will provide at least one alternate day of classes for students at that
>
> level. Parents are afraid to send them [their high school age sons and daughters] to
>
> nearby high schools for the situation [gang rivalry] and for the police who will seem
>
> as delinquents and they are not… (Teachers in focus group).

As an intermediate outcome in the process of social change, the T-RES Framework proposes

community betterment. In all cases, schools celebrated small successes: a community

cleaning day, winning international robotic tournaments, and celebrating an inter-school

"Olympics" with a focus on non-violence values.

> ….by the way, last year we had a school-community day to clean and beautify the
>
> neighborhood, even the girl that charges the extortions participated… and the

community will also help us; one of the parents will help us paint a mural in the pre-school classrooms (Principal in a gang-controlled community).

The last stage asserts that collective efforts, improved communities, and activism are needed to dismantle structures that sustain the status quo of violence, and build new structures (policies, laws, resources, culture) to sustain a non-violent society.[43]

T-RES Hoop #7: Structural Scaffolding – Institutional and Cultural

A core postulate of the T-RES Framework is that resilience for social change—the capacity to recover, perform and grow in the face of adversity—is not just an individual or human collective process. It also requires changes in institutions and culture. This implies change from structures that sustained and reproduced adversity to those that hold and sustain positive change and wellbeing.

Unfortunately, in all the empirical examples of school efforts on violence prevention in El Salvador, this ingredient was missing. Moreover, in some instances, institutional structures seemed to inhibit personal, school and community endeavors to change. Some empirical examples of this are presented next.

Ministry of Education does not understand the violent context of schools, nor provides relevant services. Most of the teachers interviewed complained about the limited services they receive from the Ministry of Education for violence prevention. The level of violence, which constantly leads to loss of life, is not realized by the education system. Interviewees pointed to evidence that shows that psychological support is limited; construction of schools in violent neighborhoods is delayed; bad teachers are not dealt with; and policy guidelines on school violence prevention are weak.

> There is a weakness in the ministry, even when you formally request [something], I don't know how the support is provided. …for example, the assignment of psychologists rather than helping, it has become a bureaucratic thing. A colleague teacher from another school told me they requested psychologists; I did the same

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[43] As in other T-RES hoops, my interviews provided more empirical examples; in this case, it was collective purpose, action, alliances and emerging shared culture among groups and communities. These can be fully explored in a case study, but it is not possible in this theory testing analysis.

thing after the killing of two students, because they saw them talking to a policeman; the psychologist only came once and never came back. [In the other school], the Ministry sent 5 psychologists but just created tensions between two groups of teachers. So basically, the little we do as schools, sometime is better [than getting ministry involved].

Sometimes Ministry services arrive late or in fractured ways.

For a musical band project, I applied [to the ministry], they only sent me a keyboard. I told them the project was for a "band." [Then]…I got 11 computers but I was still waiting for electric power for about two years….. Last year, my dream was to have electric power in the school. I raised some funds through a raffle and made 78 dollars; my big surprise was that the power company wanted 1,788 dollars to connect the electricity. I sent like 11 letters to the municipality for their support. The Ministry was going to take the computers away and I had to plead to wait until the municipality helped me connect the electricity.

Given the limited services from the central government, municipalities have provided more support and school staff themselves provide some services to gang-affected communities.

There are still many schools in the country that are abandoned by the Ministry of Education. Their argument is that they are not well documented. We were able to mobilize support from the municipality and were able to provide school places for "mareros" (youth gang member). We even had to intervene when police would come and maltreat our students. The community saw that we were there to help them. [2] for example the few psychologists available are not assigned with clear criteria; they are family members of the education departments…; a teacher colleague told me that he asked for psychologist support two years when two of his students were assassinated; finally, the psychologist came but created more problems and fights between students... (Teachers in focus group).

Politicians want to minimize the school violence problem. Although violence prevention has become a topic of the political and policy dialogue, it has remained at a superficial level. Politicians want simple solutions and strive to minimize the narratives of violence in school.

For example, the risk of death in the education community and the school management structures that have been co-opted by gangs are not discussed.

> There was a lot of communication last year on 50 municipalities that would be supported for violence prevention. I participated in the consultation, and there they were the ministries of security, justice or education and representatives of the presidency. I shared the extreme violence experience in my municipality. You know what they gave us? Six football balls! (Principal in a gang-controlled community).

Education efforts coopted by security aims. Some teachers noted that the police had a policy of changing their image in communities and provided some recreational activities for youth at risk of joining gangs. However, these activities were eventually co-opted by security aims, such as intelligence on gangs and profiling of youth.

> Youth train on [weekdays] and play football during the weekends with the police working in the community betterment, and thus are no longer against them. And it seems it was a strategy for the police to investigate the context in the community; well these days they took [arrested] about 46 people from the community, many of them parents of our school children (Teacher in a gang-controlled community).

The empirical testing of the seven constructs of the T-RES Framework are showing that social problems are complex, but they can be understood. The theoretical hoops are necessary guides to analyze and understand complex and empirical qualitative data. However, the T-RES Framework, as other conceptual guides, must not constrain new findings and should encourage them.

6.4 Conclusion: T-RES Theoretical Hoops and Empirical Data Alignment

Chapter 6 tested the alignment of the T-RES Framework with the empirical data from the demonstrative case of violence prevention activities in three gang-affected schools in El Salvador. The data seemed to align well with the six T-RES theoretical hoops related to social change processes of "collective knowledge" and "transformative action." Also, analyzing critically the data, by problematizing the findings, proved useful to uncover some hard to perceived risks, such as the positive and negative impacts of gang parent's involvement in school. The tracing methodology led to a more parsimonious understanding of a complex process of change.

In a full case study, further analysis will be needed beyond this first "deductive" phase that aligned case data against the T-RES Framework conceptual framework. As noted in Chapter 5, a full case study (using abductive and process tracing approaches) would require both the deductive analysis ("hoop test") using the T-RES Framework and an inductive analysis ("smoking-gun test") to provide the empirical proof that links social practices to the social outcome of interest.

 Chapter 7, next, concludes the test of the T-RES Framework with the inferential analysis. It seeks to explain what needed to happen for school violence prevention to take place. The emphasis is on theorizing the causal mechanisms (the how and why) that can be generalizable to other contexts.   The "how" component provides the casual story abstracted from the purposeful systematic practices traced here in chapter 6. The "why" component explains why the participating agents and structures have the capacities— or causal powers – to exert such change.

CHAPTER 7.   CAUSAL MECHANISMS FOR VIOLENCE PREVENTION IN SCHOOLS

This chapter tests the inferential analysis phase of the T-RES Framework. It theorizes on the causal mechanisms that underlie the violence prevention efforts in the three schools studied in Chapter 6. A causal mechanism has two components: (i) the "how" explains the systematic, step-by-step, causal process towards the outcome of interest; and (ii) the "why" component infers the causal powers that participating social entities contribute to the process of change (Cartwright, 2007; Beach & Pedersen, 2013; Beach, 2017). Figure 7.1 graphically shows the T-RES Framework contributions to explain how a causal mechanism works and why it can exert change.

Figure 7.1

T-RES INFERENTIAL ANALYSIS OF CAUSAL MECHANISMS

COMPLEX AND INTERDEPENDENT RELATIONS

COLLECTIVE KNOWLEDGE

TRANSFORMATIVE ACTION

PERSONAL CAPACITIES/CAUSAL POWERS

COLLECTIVE CAPACITIES/CAUSAL POWERS

STRUCTURAL CAPACITIES/CAUSAL POWERS

HOW CAUSALITY OCCURS
- Purposeful and systematic social practices
- Informed and committed action
- Chain-reaction change across social entities (agents-structures)

WHY CAUSALITY IS POSSIBLE
- Real (inherent) causal powers of social entities
- Actualized causal powers in social practices
- Context field forces facilitate or inhibit actualization of causal powers

This chapter is organized as follows: Section 7.1 recalls the intended violence prevention outcomes of the purposeful systematic school practices traced in Chapter 6. Section 7.2 infers the "how" component of the underlying causal mechanism. Section 7.3 infers the "why' component of the causal mechanism (the causal powers or capacities of the social entities participating in the schools' change process). Section 7.4 proposes an integrated

construction of the causal mechanisms (the "how" and the "why") at play in the three schools studied. This integration uses the three levels of "reality" from Bhaskar's Critical Realism: the real, the actual and the empirical. Section 7.5 provides some concluding remarks on the test of the inferential phase of the T-RES Framework.

7.1 Outcomes: Schools Violence Prevention Aims

A complex causal structure integrates outcomes, causal mechanisms and context (Pawson & Tilley, 2004; Pawson, 2014).[44] Thus, the T-RES Framework first identifies the outcome (O) of interest. Second, it asks: "what needed to happen for this to occur?" The answer to this question is the underlying causal mechanism (M). Third, the field forces in context (C) that can inhibit or facilitate the expression of a causal mechanism are also analyzed.

Starting with the outcome level, this section recalls the violence prevention outcomes identified in the schools studied in Chapter 6. In general, the expressed purposes for the violence prevention efforts by teachers were: (i) to foster non-violent behaviors in school, (ii) to help their students have a positive educational experience, (iii) to protect them from violence, and (iv) to contribute to their psychosocial wellbeing (see Figure 7.2).

Figure 7.2
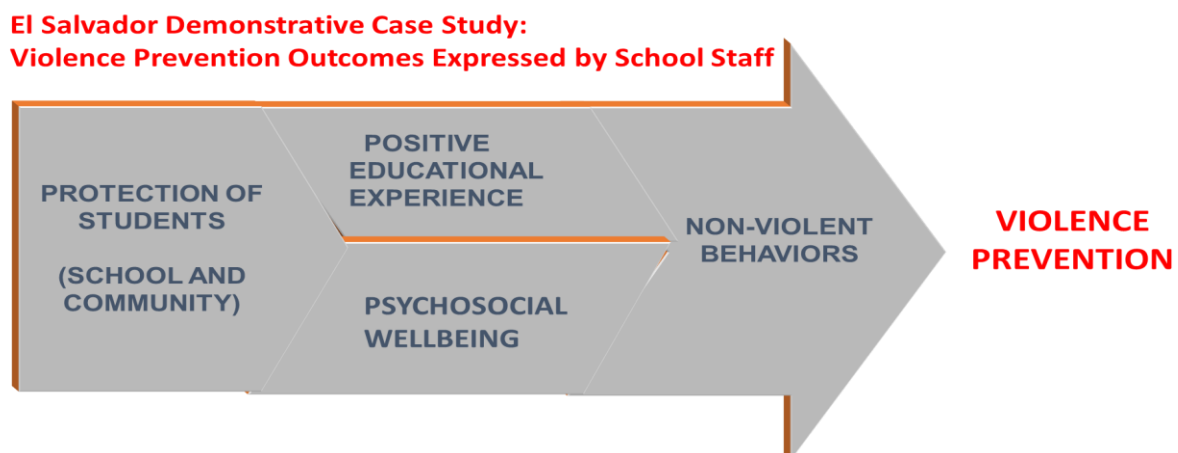
Having identified the violence prevention outcomes, the next step is to infer the causal

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[44] Ray Pawson developed the structure C-M-O, where he starts a causal analysis from the context where an intervention is already being implemented to achieve an expected outcome. Measuring the impact of an intervention is mostly an "effect of causes" approach. The T-RES Framework starts with the outcome of interest, infers the causal mechanism and, then, analyzes how context can facilitate or inhibit it. This is a "causes of effect" approach to understand a complex phenomenon.

mechanisms (the how and why) associated with them.

7.2 How: Step-by-Step Causal Process

The "how" component of a mechanism provides a causal road map to explain the stated violence prevention outcomes. This causal process can be inferred from the tracing analysis of systematic and purposeful social practices in Chapter 6. These social practices provide the foundation to identify the "how" component of the causal mechanism for violence prevention in the schools studied. To recall, these include:

(i)   Building trust and forming alliances;

(ii)   Purpose setting and commit to "violence prevention" outcomes;

(iii)   Personal empowerment leading to an individual's contributions to collective efforts; and

(iv)   Collective efforts leading to community betterment and demands for better and relevant social services.

However, there were two additional causal steps that were undermined:

(v)   Limited support from public institutions and lack of knowledge of extreme violence in schools and efforts to contain it; and

(vi)   No support from central education institutions to sustain ("scaffold") school violence prevention efforts.

Inferentially, the above social practices for violence prevention can be broken down further. Box 7.1 to Box 7.6, below, take each "causal step" and abstract further sub-steps to better understand the causal process. Also, they summarize the relevant empirical evidence from the demonstrative case that substantiates each causal step. The seven causal practices abstracted from the empirical data are:

- Box 7.1 – Causal Step #1:   Building trust and forming alliances

- Box 7.2 – Causal Step #2:   Purpose setting and commitment to action

- Box 7.3 – Causal Step #3:   Personal support for collective change

- Box 7.4 – Causal Step #4:   Collective organization and demands

- Box 7.5 – Causal Step #5:   Limited social services for school and community

- Box 7.6 – Causal Step #6:   No long-term institutional and cultural scaffolding of schools' efforts

Box 7.1 – Step-by-Step Causal Mechanism Process ('How'): **Causal Step #1: Building Trust and Forming Alliances**
Sub-Steps 1. Building trust and mutual respect 2. School agents (principal and teachers) form alliances all possible levels (teachers, students, community, gangs) 3. Collectively assess the violence risks and needs 4. Collectively identify existing and hidden assets (as resources in violence prevention and to demand social services that enhance them) **Empirical grounding:** The teachers in the three schools studied formed alliances at different levels (based on the contextual possibility). The most extensive was the alliance of a principal with his teachers, community and gang leadership. For the "robotics" teacher, the partnership was built with his students and with science teachers in other schools and national and international competitions. For the two teachers without school leadership support, their alliances with other teachers were ad-hoc and informal, yet active. Forming alliances was not a formal process; it required building trust through caring, small acts of service, and agreeing on mutual rules and expectations. In these collective settings, the different alliances assessed the violence risks and ways they can contribute to prevent it with their own resources (assets) and support from others (external services), such as municipalities, NGOs, universities, and the Ministry of National Education (this latter with limited results).

Box. 7.2 – Step-by-Step Causal Mechanism Process ('How'):
Causal Step #2: Purpose Setting and Commitment to Action

Sub-Steps

1. Collectives (principal and teachers, community and school) define and agree on common goals: non-violent behaviors, community and student protection, etc.

2. Each actor and set of actors commit to contribute based on their assets: teachers caring and relevant pedagogical practices; community and parental care and participation; and gang neighborhood, school and (allied) teacher protection.

3. Prior knowledge of adversity and assets is used to renew and keep commitment

Empirical grounding: At the school in the gang-controlled community, teachers, parents, communities and even gangs agreed on a set of goals related to the education, protection and wellbeing of students and the community. Each type of actor contributed based on their roles and capacities: teachers committed to provide a caring experience and a non-violent environment which reinforced values such as cooperation and empathy. This was not a "class" but real experiences in the classroom, during recess, and in the daily interactions among teachers and peers. Teachers who did not abide by these goals were asked to leave the school. Gangs, in turn, protected the teachers, the school and the community. The violence risks and the ways in which each actor could contribute were constantly reassessed for renewed commitment (through school meetings, phone calls by school gangs from prison, etc.).

Box 7.3 – Step-by-Step Causal Mechanism Process ('How'):
Causal Step #3: Personal Support for Collective Change

Sub-Steps:

1. Individual change agents are needed to rally support, motivate participation and create collectives with common goals

2. Change agents provide examples of agreed upon behaviors and demand the same of others

3. Collective and creative activities for violence prevention with motivated leaders and members

4. Change agents as part of a collective strive for "early wins" or intermediate outcomes in students, school, and community.

Empirical grounding: All of the teachers interviewed were motivated and committed to contributing to violence prevention. Their empowerment came from their own adversity experiences and resilience that enabled them to recover, function and grow. As change agents, they also knew they could not do it alone. The school leader, as change agent, supported the prior steps of forming alliances, awareness, purpose and commitment, and supported the relevant behaviors towards the shared goal of the education, protection and wellbeing of students. These natural leaders supported the school's creative efforts and services for violence prevention (caring approaches, protection, innovative pedagogy, special interest clubs, extra-curricular activities, etc.). In all three cases there were early wins: non-violent behavior and fewer disciplinary cases at school in the gang-controlled community; national and international wins at "robotic" tournaments for the at-risk girls' school; and increased trust and commitment from students in the classroom of the P.E teacher. Some community betterment was also an aim, as in the "clean and beautiful community day" organized by the school in gang-controlled neighborhood.

Box 7.4 – Step-by-Step Causal Mechanism Process ('How'):
Causal Step #4: Collective Organization and Demands

Sub-Steps:

1. Community and parental participation in public organizations (school, community council, etc.)

2. Organized communities gain civic and advocacy skills

3. Community request social services (schooling, participation in events, resources

4. Organization and advocacy can come from communities with questionable leadership (such as gang-controlled communities)

Empirical grounding: Where a school-community alliance existed, parents and community members participated in the school organization structures (parental-teacher association, school management committee, etc.). Community members had also requested the opening of a school through the local community council and were now requesting that a high school section be opened. Surprisingly, this knowledge and use of advocacy to request social services was coming from a gang-led community that understood the power of organized communities and organized demands to state institutions. Demands for services and support from the other two schools were limited by the low level of collective organization. The robotics teacher was able to use the school's membership in science and robotics associations (a collective organization) to request funds for his students to participate in international competitions. The two teachers in the school without leadership support were only able to receive ad hoc support from other teachers and a university researcher.

Box 7.5 – Step-by-Step Causal Mechanism Process ('How'):
Causal Step #5: Limited Social Services for School and Community Support

Sub-Steps:

1. Limited response from central institutions to demands for schools and community services (while school leadership needed guiding policies, strategies and specific resources for violence prevention)

2. Municipalities provided some support; community-based organizations (NGOs) provided the most support

3. Schools and communities are left to mostly fend for themselves, instead of receiving support to enhance their resilience assets

Empirical grounding: All of the teachers interviewed complained about limited guidance and resources for violence prevention from the Ministry of Education. They called for policies and resources to help them do more and sustain their own violence prevention efforts. For some teachers, the lack of structural support was even lacking within their own school, and their only area of influence was their classroom. Municipalities and NGOs provided the most support to school and community efforts, and it seems that the closer a service provider was to the community the more relevant were services provided. In general, the argument of communities, schools, special programs or active teachers was not that they were just waiting for the ministry to prevent violence. Rather, they were just asking for support to buttress the commitment, efforts and investments of the school and community actors.

Box 7.6 – Step-by-Step Causal Mechanism Process ('How'):

Causal Step #6: No Long-Term Institutional Scaffolding & Cultural Shift

To Sustain School Efforts

Sub-Steps:

1. The Ministry of Education would provide the relevant policies, strategies and services to support and sustain the efforts and changes at the school and community levels

2. The normalization of violence would begin to shift through more accountable institutions and there would be changes in corrupt and hypocritical practices

Empirical grounding: Although the expectations for violence prevention were the causal steps listed above, there was no evidence of concerted resources from the Ministry of Education at the three sampled schools. Especially, there was no evidence of institutional knowledge of their efforts for violence prevention, and thus of systematic resources to support, disseminate and scale up their experiences. This is the meaning of "institutional scaffolding." Some interviewees also noted that efforts to change a culture that normalizes violence is inhibited in part by the media and by "corrupt and hypocritical politicians and bureaucrats."

Configuring the "how to" component of a causal mechanism

The above causal process, broken down by steps and sub-steps, can be reconfigured into a "how to" component of a mechanism of youth violence prevention in gang-controlled neighborhoods and schools.

Figure 7.3 (next page) presents the emerging "How-To Mechanism" as part of the empirical test of the T-RES Framework. It shows the following causal process:

1. **Alliances and awareness.** Schools in gang-controlled neighborhoods first build trust and form alliances to achieve the stated violence prevention outcomes. However, these alliances take different forms: (i) entire school staff and communities, including gang leaders; (ii) a sub-group of teachers; or (iii) a single teacher and their students.

Figure 7.3

SCHOOL EFFORTS FOR VIOLENCE PREVENTION IN EL SALVADOR: Step-by-Step Mechanism (The How)

TRUST & ALLIANCES
• Building trust
• School agents building alliances
• Collectively assessing violence
• Collectively identifying assets

PURPOSE & COMMITMENT
• Defining common goals
• Contributing diverse assets
• Renewing and keeping commitment

PERSONAL SUPPORT FOR COLLECTIVE CHANGE
• Individual change agents
• Modeling agreed behaviors
• Leading collective efforts for violence prevention
• Celebrating 'early wins'

ORGANIZATION & DEMANDS
• Community participation in public organizations
• Organized communities and advocacy
• Community requesting social services

LIMITED PUBLIC SOCIAL SERVICES
• Limited support from central institutions
• Municipal and non-governmental institutions most responsive

NO INSTITUTIONAL & CULTURAL SCAFFOLDING
• Culture normalizes violence (inter-personal relations, accepted behaviors, media)
• Limited institutional knowledge of violence risks and prevention efforts in schools
• No support to school and community efforts
• No long-term sustainability of youth and school violence prevention initiatives

2. **Purpose and commitment.** The alliances define the rules and approaches to achieve their violence prevention goals. This may require some compromise, such as gangs providing principals and teachers with the authority to make rules inside the school, while respecting the gang's need for protection and control in the community. Teachers identify resources and opportunities to support their violence prevention activities in and outside the school. Principals monitor teachers to provide the needed psychosocial care and to avoid further maltreatment of at-risk children and youth. The commitment to violence prevention goals is constantly renewed across teachers, students, families, gangs, and external supporters.

3. **Personal support for collective change.** Personal motivation and commitment are critical for teachers working in violence-affected schools. This usually comes from teachers' own experience with violence, poverty or other adversity. However, they are also role models of positive change. Teachers contribute their personal characteristics and skills to collective change, such as teamwork, creative school activities, and community betterment. Principals and teachers motivate students and help them celebrate their achievements. This can be done schoolwide or within a special program (such as the robotics program in the all-girls school of San Salvador).

4. **Organization and collective demands for services.** Organized groups of school staff and community members are better able to request crucial services from external institutions. For example, even the school in the gang-controlled neighborhood needed community mobilization. Teachers and parents continued to organize to demand services from the Ministry of Education and from municipalities. This required bureaucratic and administrative work. Organized demands did not automatically mean institutional response. However, this process provided a clear structure for participation, advocacy, and mechanisms to request and to monitor compliance by the Ministry of Education and other external institutions.

5. **Public social services**. Institutional change towards violence prevention is required to scale up and to scaffold the efforts at the school and community levels. It seems that the closer institutions are to school, the more responsive they are. In the demonstrative case, central institutions, such as the Ministry of Education, were less responsive.

6. **(Inhibited) Institutional and cultural scaffolding**. Institutions and cultures have the capacity to sustain behavior over time. The demonstrative case of El Salvador showed that this structural step was absent. Structural scaffolding is crucial for violence prevention. Schools can achieve their own stated outcomes, up to and including the reduction of violence behaviors. However, without public services and supportive institutional structures, long-term violence prevention is elusive.

7.3 Why: Causal Powers of Social Entities

The second component of a causal mechanism explains why the change process is possible. It infers the causal powers of the agents and structures participating in the change process detailed in the previous section. The ontological premises of Critical Realism claim all social entities have inherent causal powers given their unique properties as individuals, collectives, cultures or institutions (Christensen, 1992; Cartwright, 2007; Archer, 2015). It is the intrinsic – real – nature of causal powers that helps explain and generalize why individuals, collectives and organizations, for example, can contribute to violence prevention in schools in El Salvador.

> Powers are generally taken to be real … properties with the following characteristics: (a) They are intrinsic to their bearers; (b) they have their causal abilities essentially. Characteristic (a) entails that powers are not extrinsic properties, i.e., properties that are had by objects in virtue of their standing (or not standing) in certain relations to external entities. Characteristic (b) makes powers distinct from *categorical* properties. Categorical properties are properties that have their causal abilities (if any) only contingently (e.g., via contingent laws of nature) (Wahlberg, 2018, pp. 2-3).

For the inferential (theorizing) demonstration of the T-RES Framework, a sample analysis of causal powers for various social entities participating in the school practices for violence prevention in El Salvador is presented in table 7.1 (next page). These are just examples to show the potential of the T-RES Framework to identify causal powers. The thesis conclusions in chapter 8 will provide some next steps for more in-depth research on causal powers and causal mechanisms. For each social entity level in the demonstrative case, a few examples are provided next:

- <u>At the individual level</u>, the principal of a gang-controlled school controlled built trust with the community; motivated and organized teachers; defined school rules alongside gang members; and monitored the behaviors of teachers and students. These social practices require the causal powers of individuals, such as empathy, hope, strategic visioning, resourcefulness, and authority.

- <u>At the collective level</u>, school management committees provided the space for school staff and parents to make decisions regarding the welfare of students, including protection from violence and educational needs. Community development councils provided a bridge between school and community needs and the space to advocate for municipal support for community betterment. These collective efforts benefited from causal powers of collective intentionality, an ensemble of diverse skills, and sharing of resources, as well as collective critical vision and advocacy capacities.

- <u>At the structural-institutional level</u>, municipalities and other institutions closer to the community were able to provide social services. However, longer term resources, such as school budgets and violence prevention skills – which could have been provided by the Ministry of Education – did not reach the schools studied. The institutional causal powers of sustainability and long-term resources were inhibited.

- <u>At the structural-cultural level</u>, there is evidence of cultural changes in the interaction of schools and gang-controlled communities. Schools were able to influence new norms related to educational quality and school betterment. On the other hand, gangs introduced a culture of rewards and punishment into schools, where violence was still an alternative. Preventing violence completely was inhibited by a culture that exerted its causal powers of normalizing violence within collective behavior and values. It also internalized such values and norms in school and community relations.

Example of Context Inhibiting Structural Causal Powers

Causal powers can be facilitated or inhibited by field forces in different contexts. For example, for the structural causal powers above, the El Salvador context inhibited the causal powers of institutions and culture needed to sustain violence prevention efforts in schools. Especially in the most violence-affected schools, there were comments about the limited or

irrelevant support from the Ministry of Education. There were also many comments about the cultural normalization of violence in El Salvador.

Within the T-RES Framework, an analysis of context can help understand the non-actualization of causal powers of social structures, such as institutions and culture. Such full analysis is not undertaken here, as the scope of this thesis is limited to a demonstrative test. However, I end this section with three examples of how the El Salvador context seemed to have inhibited the needed institutional contributions ("causal powers") for violence prevention in schools:

- **Public social services inhibited by corruption and hypocritical behavior of politicians and bureaucrats** (demonstrative empirical example: El Salvador politicians leading big townhalls on violence prevention, but only providing footballs in response to school violence prevention needs).

- **Community-school alliances and participation inhibited by co-option of institutional structures for illicit activities** (demonstrative empirical example: gangs infiltrating school management and budgets in El Salvador schools).

- **Education purpose and social mobility inhibited by criminal rewards** (demonstrative empirical example: organized crime provides youth with more money in one day than a professional monthly salary in El Salvador).

In conclusion, a more in-depth analysis of context would explain why violence prevention is not fully achieved in El Salvador, despite the efforts of committed principals, teachers and communities studied in the demonstrative case.

Table 7.1, next, provides the findings of the test of the "causal powers" analysis within the T-RES Framework.

Table 7.1 – Entities and Their Causal Powers in the Education Setting of El Salvador In the Face of Violence		
Social Entity	**Social Practices**	**Causal Power**
	Individuals	
Principal or Teacher	• Builds trust with the community • Motivates and organizes teachers • Defines school rules • Monitors agreed upon behaviors	• Empathy • Hope • Strategic visioning • Resourcefulness • Authority
Gang-Affiliated Parent	• Provides education for their children • Protects the community • Participates in school activities and structures • Accepts gang and school rules	• Caring • Strength • Calculative • Controlling
University Researcher	• Visits schools in most violent communities • Supports teachers with conferences on violence prevention • Builds knowledge for teachers and schools • Shares knowledge across schools	• Altruistic • Analytical • Convincing • Convening
	Collective Groups and Organizations	
School Management Committees	• Principal, teachers and parents reflect on violence-related risks in community • Shared purpose for education, protection and wellbeing of students • Resources manged for running school and some violence prevention activities • Collective work for community betterment	• Collective intentionality (shared purpose) • Ensemble of skills (range of skills available) • Sharing of resources

Community Development Councils	• Advocate for social services for the community • Rally community participation and resources to support betterment activities • Negotiate with municipal and ministry staff	• Critical • Visionary • Understand structures
NGOS	• Provide local and meaningful services to communities and students • Adapt services to context and changing conditions in the community • Rally financial and technical resources	• Local and global vision • Creative • Resourceful
Social Structures		
Public Institutions (the state)	• Should provide policies as guides for violence prevention • Should develop prevention programs aligned with the assets of local communities and schools • Should sustain resources and knowledge for violence prevention (**Note:** Empirical analysis showed limited actions by public institutions, therefore these activities are listed as "should provide.")	• Long-term preservation • Influence agents' behaviors • Resourceful (**Note:** These institutional causal powers were not triggered.)
Culture (and cultural symbols)	• Shared belief that violence can be prevented • New non-violent ways of behaving in different social settings (e.g., schools, streets, and driving) • Emerging new values, such as respect for diversity, and peaceful resolution of conflict. (**Note:** Empirical analysis showed culture contributed to normalizing violence in El Salvador; however, some of the cultural contributions listed above began to emerge in schools in the study.)	• Influence agents' collective behaviors • Internalization (creates agents' beliefs) • Normalize values, beliefs and behaviors

7.4 Inference of Causal Mechanism for Violence Prevention Outcomes in the Schools Studied

This last section theorizes the underlying "causal mechanisms" by bringing together the inferences on "how and why" the schools studied were achieving non-violent behaviors, as well as providing protection, psychosocial wellbeing, and positive educational experiences.[45] Even from a single study, an abductive inferential analysis can provide theoretical explanations to generalize and transfer to other contexts.

A causal mechanism is simply a causal explanation. It is at a higher level of abstraction to be useful and transferable to other contexts. It can be called a "hypothesis" but it is already grounded on existing empirical data. The available evidence answers "how" and "why" questions regarding the change process. Hedstrom and Ylikoski note:

> …we follow a long philosophical tradition and assume that explanations are answers to questions…. The why or how questions one is addressing determine what the representation of the mechanism should include in order to be explanatory. Only by knowing the nature of the explanatory task at hand can one can determine which details of a mechanism are relevant to include and the appropriate degree of abstraction (2010, p. 52).

For the T-RES Framework, uncovering causal mechanisms follows the three levels of a critical realist analysis: empirical, actual and real.   At the empirical level, data is collected to trace "how" social entities (students, teachers, parents, communities, organizations) interact to achieve the outcomes of interest (non-violent behaviors, protection, and wellbeing of students).

Subsequently, in critical realism, social activity is the "actual" level of reality. It is different than the empirical level because causal powers are at play in social interactions even when not

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[45] As noted, before, this doctoral thesis only tests the different analytical approaches of the T-RES Framework. This inferential analysis test is not a full case study of outcomes, causal mechanisms and the field forces, just a demonstration of the analysis to generate causal mechanisms.

empirically perceived. It is in social activity, "the how", that social entities share their causal powers to achieve the outcome of interest.

Lastly, the inference of causal powers represents the "why" of change and the "real" level of causation. In the demonstrative case, at the real level, the researcher would infer why teachers, communities, and organizations were able to contribute to positive change (non-violent behavior, protection, wellbeing) in their schools or classrooms.

Table 7.2, next page, shows graphically the causal mechanism theorized from the El Salvador demonstrative case, within the O-M-C causal structure proposed by the T-RES Framework. A short summary follows here:

- **Outcome.** To promote non-violent behaviors of students in gang-controlled schools, teachers sought protection, positive educational experiences and psychosocial wellbeing (as intermediate outcomes).
- **Mechanism.** [How.] Participation, leadership and organized advocacy seem to be broad mechanisms of "how" positive change was achieved. Structural support from institutions such as the Ministry of Education were needed to scaffold school and community efforts. [Why.] The causal powers of individuals, communities, local organizations and other institutional structures are crucial for the process of change. These causal powers – visioning, trust, collective intentionality, local-global vision, etc.— are intrinsic to social change in El Salvador and elsewhere.
- **Context.** However, the above causal powers can be inhibited or facilitated by other forces in context. For example, in the demonstrative case of El Salvador, institutional causal contributions were not actualized. They were inhibited by other forces in context: limited knowledge/interest, corruption and hypocrisy.

Table 7.2 provides additional details on this causal mechanism analysis. It notes also the three Critical Realism levels of causal analysis (real, actual and empirical).

OUTCOME [O]	Table 7.2 T-RES Causal OMC Structure		CONTEXT [C]
	CAUSAL MECHANISM [M]		
	HOW Change Occurs?	**WHY Change is Possible?**	**FIELD FORCES** (for or against change)
	ACTUAL SOCIAL ACTIVITY	**REAL** CAUSAL POWERS	

• Violence Prevention
  • Protection
  • Positive Educational Experience
  • Psychosocial Wellbeing
  • Non-Violent Behavior
	Individuals and Collectives
	 • **Participation.** Schools and communities form alliances and together identify violence risks and assets to confront adversity; this collective knowledge leads to common goals and a commitment to act for the protection, education and wellbeing of students.
	 • **Leadership.** School and community leaders (even gang-related) rally and motivate others to work together to achieve goals through different ways. They celebrate early wins, such as a betterment of a gang-controlled community or winning an international competition of robotics.
	 • **Organized Advocacy – services and institutional change**. Organized communities and schools advocate for more, relevant and meaningful social services, especially from institutions that are closer to them (NGOs and municipalities)
		Individuals
		 • Teachers and principals contribute to the causal process through their empathy, hope, strategic visioning, resourcefulness and authority.
		 • Parents (even if they are gang members) also have a sense of purpose and capacity to care and reflect on better opportunities for their children.
		 • Gang members' ability to control and protect can be re-directed to non-violent outcomes, although violence is always a resource for them.
		 • Other leaders provide support through causal powers of altruism, convincing and convening, such university researchers training school teachers in violence prevention.
		 Communities
		 • Groups within the school and community contribute to the causal process through their collective intentionality (shared purpose), ensemble of skills (range of skills available), and sharing of resources.
		 Local Organizations
		 • NGOs and other organizations provide more relevant resources to communities because of their creative capacity and local and global vision.
			Facilitated

	Structural Social Activity and Change • When institutional structures, such as the Ministry of Education, do not sustain school and community efforts for violence prevention, they inhibit the impact of these local efforts. Rather, relevant policies, strategies, services and resources are needed to sustain and scale up existing positive practices in schools and communities.	**Casual Powers of Structures** • Ministry of Education and other public agents have the causal power to sustain school efforts in the long-term, as well as to strengthen local capacities. However, these can remain unactualized (as in the demonstrative case of El Salvador).	Inhibited

EMPIRICAL - MAPPING OF CONTEXT AND TRACING OF PURPOSEFUL AND SYSTEMATIC SOCIAL ACTIVITY

7.5 Conclusion: Inferential Analysis and Causal Mechanisms

Using qualitative data and following abductive reasoning, the T-RES Framework helped to build a causal story in the demonstrative case of El Salvador.

Descriptive analysis in Chapter 5 helped us to see the complexity of youth and gang violence in the education system of El Salvador. It brought to the fore the diverse interactions across agents and structures and presented a complex range of views on causes of and solutions for violence. Within this complex setting, the T-RES Framework placed the three schools that were studied.

Chapter 6 traced the social activity for violence prevention in the three purposefully sampled schools. It focused the complexity of violence in El Salvador within a more parsimonious analysis at the school level. The analysis, first, identified the violence prevention outcomes pursued by the schools and their systematic social practices towards those outcomes. The "theoretical hoops" provided by the T-RES Framework helped to trace a causal process from a complex set of qualitative data.

Lastly, Chapter 7 was able to infer a causal explanation of how and why violence can be mitigated in schools. Causal mechanisms are theorized to facilitate application across settings but are still connected to its empirical findings (chapter 5 and 6). This is precisely the definition and usefulness of causal mechanisms as middle-theories of change (Merton, 2007).

The conclusion of my thesis, Chapter 8, will provide further reflection on the construction and demonstration of the T-RES Framework, the value of qualitative research for explanatory causality, and future recommendations for research methods and evidence, as well as policy and practice.

CONCLUSION

CHAPTER 8. FINDINGS, CONTRIBUTIONS AND FUTURE REFLECTIONS

This final chapter summarizes my thesis' findings related to the building and testing of the T-RES Framework and its expected contributions. Section 8.1 presents findings across the thesis' Part A, Part B and Part C; these are in line with the thesis' research questions. Section 8.2 sets the thesis contributions to knowledge and methodology, while Section 8.3 sets those for international development research and for EiE policy and programming. Section 8.4 provides some concrete recommendations to EiE actors. Section 8.5 notes limitations and areas for future research.   Section 8.6 provides some final personal reflections and commitments.

8.1 Research Findings and the T-RES Framework Utility

This section summarizes the thesis findings in relation to the building and testing of the T-RES Framework. It notes (i) the evidence gaps in EiE due to its preferred positivistic research methods; (ii) the contributions of integrating Resilience findings and Bhaskar's Critical Realism into a framework for social change from adversity to wellbeing; and (iii) the alignment between the T-RES Framework and the empirical data from the demonstrative case of El Salvador.
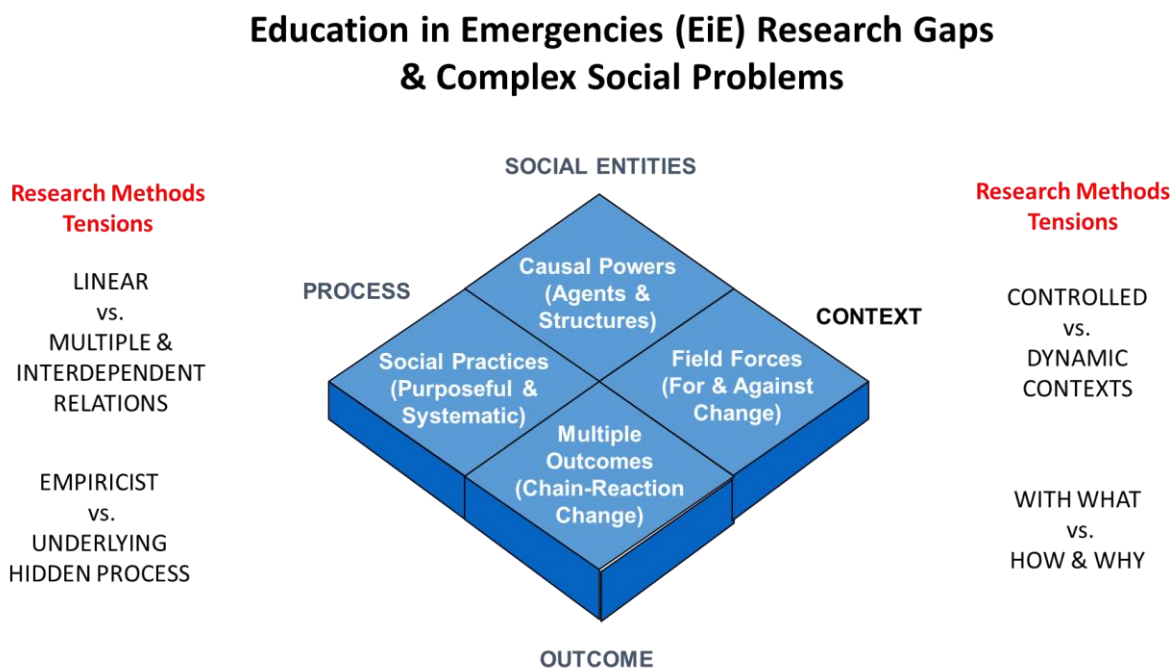
Evidence Gaps in Education in Emergencies

The purpose of this thesis was to provide more relevant conceptual and methodological tools to study protracted problems in the EiE field. Through this thesis, "violence" was used as an example of a protracted and complex problem. In Part A, the thesis showed that studying violence solely with methods from a positivist paradigm, such as survey-based and RCTs, leave many complex causality questions unanswered. These include: (i) not addressing the complex interdependence across different social entities (individuals, communities, institutions); (ii) not explaining the process and social activities leading to an outcome, (iii) obviating the underlying and not easily observable causal mechanisms; and (iv) controlling rather than explaining context. This thesis shows that by using a broader range of research methods—especially qualitative, critical, and theory-based—complex causality can be explained more.

Part A of this thesis further showed that causal analysis based on the constant conjunction of

two variables, statistically assessed, can only substantiate "what" works (effects of causes) rather than explain "how" and "why" an outcome can occur (causes of effects). This thesis showed that more relevant methods are needed to explain the complexity of protracted problems in EiE. They do so by addressing multiple and interdependent relations, observable and underlying processes, dynamic context and in general answer the "how" and "why" of change (see figure 8.1).

Figure 8.1

Education in Emergencies (EiE) Research Gaps & Complex Social Problems

SOCIAL ENTITIES

Research Methods Tensions

LINEAR
vs.
MULTIPLE &
INTERDEPENDENT
RELATIONS

EMPIRICIST
vs.
UNDERLYING
HIDDEN PROCESS

PROCESS

Causal Powers
(Agents &
Structures)

Social Practices
(Purposeful &
Systematic)

Field Forces
(For & Against
Change)

Multiple
Outcomes
(Chain-Reaction
Change)

CONTEXT

Research Methods Tensions

CONTROLLED
vs.
DYNAMIC
CONTEXTS

WITH WHAT
vs.
HOW & WHY

OUTCOME

Lessons on Integrating Critical Realism and Resilience to Guide Social Change Research

To help close some of the knowledge and methodological gaps in EiE, Part B of this thesis developed the T-RES Framework. It built theoretical guidance regarding social change from adversity to wellbeing, grounded in prior empirical findings of resilience and the philosophy of science tenets of Roy Bhaskar's critical realism. This integration acknowledged a complex causal process of social change, influenced by multiple social entities (agents and structures); hidden risks and assets; and chain-reaction change across agents and social structures.

To understand complex EiE problems, the T-RES Framework proposed seven stages of social change from adversity to wellbeing as "theoretical hoops" to guide analysis of qualitative data. The T-RES theoretical hoops are: (i) complex interdependence across diverse social entities (agents and structures); (ii) understanding the hidden forces that sustain adversity; (iii) uncovering assets (strengths and opportunities) for change; (iv) collective awareness and commitment; (v) personal change and empowerment; (vi) collective change and community betterment; and (vii) structural (institutional and cultural) change and scaffolding.   These seven constructs were then tested in the empirical case of youth and school violence in El Salvador.

The thesis showed the process of theory construction, consisting of explanatory concepts, their relations and their limitations, all interconnected through an underlying logic. The logic for the T-RES Framework was the integration of Resilience and Critical Realism providing, respectively, the empirical and philosophy of science (ontological and epistemological) grounding. This thesis also developed its own method for analysis based on abductive thinking, adapting and integrating analytical tools such as process tracing, a qualitative method to research causality.

T-RES Framework Empirical Demonstration and Alignment

Part C tested the T-RES Framework empirically, with qualitative data collected in three schools in El Salvador. The analytical goal was to uncover the causal mechanisms explaining "how" and "why" youth violence was mitigated (or not) in the schools studied. To do so, the T-RES framework helped to iteratively analyze empirical data against its theoretical hoops, based on what is known of the process of social change from adversity to wellbeing.

The abductive research approach, adapted for the T-RES Framework, was useful in mapping the complex setting of youth violence in the country, which consisted of multiple agents (teachers, gang leaders and members, families) and structures (municipalities, ministry of education, gang culture). A broad range of views on the causes of, and solutions for, youth and school violence in El Salvador further showed the complexity of the phenomena.

The tracing analysis identified the schools' violence prevention outcomes and their purposeful and systematic practices to achieve them. For example, schools aimed to mitigate violent behaviors by providing a positive educational experience, protecting students and supporting

their psychosocial wellbeing. A shared commitment among school staff, the community and even gang members led to a range of school purposeful practices for violence prevention: active and playful pedagogy, special programs (sports, robotics, etc.), non-violence conflict resolution, managed recess time, a caring and protective school environment, and healthy discipline. In addition, teachers supported community betterment activities: request for a municipal project, a community clean-up day, and support during emergencies.

Critically, gang involvement in school had both positive and negative consequences that could not be easily separated. For example, while families of gang members supported and participated in school activities, the school also became a place for gang leaders to hide and to usurp some of the school management structures. Also, there was limited evidence that El Salvador's education system structures (Ministry of Education) understood and supported these schools' efforts or provided inputs for the long-term sustainability of their violence prevention strategies.

Lastly, the T-RES inferential analysis was tested to uncover causal mechanisms to explain how and why violent behaviors could be mitigated in the schools studied. This inferential analysis, in Chapter 7, generated lessons that could be transferred to other contexts. The causal mechanism for the demonstrative case was generated within the following structure: the Desired Outcome (O), the Causal Mechanism (M), and the Context (C) field forces that can inhibit or facilitate the causal mechanism.

The qualitative inferential analysis integrated the "empirical," "actual" and "real" analytical levels of causality proposed by critical realism. From the empirical analysis of the school activities to prevent violence, some core purposeful and systematic social practices where "actualized." These included, in general, community participation, school leadership and organized advocacy by education actors. These inferences of core causal processes at play were aligned to the T-RES hoops related to (i) collective knowledge and commitment to violence prevention; and (ii) collective action and chain-reaction change across teachers and principals, students, parents and the community at large.

Lastly, at the "real" causal level, Chapter 7 inferred some of the causal powers from individuals,

communities and local organizations. Unfortunately, in the demonstrative case, there seem to be limited contributions and positive changes at the structural level, especially related to services provided by the Ministry of Education and other central government structures.

8.2 Contributions to Theory and Methodology

The building and testing of the T-RES Framework, in this thesis, contributes to broadening the theoretical understanding of complex change in the EiE field. This thesis also contributes a methodological approach to the growing interest in causal qualitative research.   Each of these useful contributions are expanded next.

Theoretical and Methodological Contributions

The testing of the T-RES Framework showed that it was useful to guide substantive research on human and social change in contexts of adversity. In the demonstrative case, the seven T-RES theoretical hoops aligned well with the empirical data and helped to explain the complexity of school efforts to prevent violence. They provided an evidence-based framework on the process of social change from adversity to wellbeing.

Methodologically, the T-RES concepts and relations helped to bring order to a very complex data set. Abduction helped to explain causality by iteratively engaging with empirical data and theorizing. Its analytical progression helped to build a rigorous story of causality by: (i) mapping the complex social setting of the outcome of interest; (ii) tracing the purposeful social activities leading to the outcome; and (iii) inferring the underlying causal mechanisms.

Expanding Theorizing of EiE Protracted Problems

EiE problems are complex and require relevant conceptual frameworks to guide their understanding. As noted at the outset of this thesis, theory is not just an insight or a hypothesis. Middle ground theories carry empirical knowledge that has been abstracted to be transferable to other contexts. As such, conceptual frameworks, such as the T-RES Framework, are constructed based on an accumulated body of knowledge on the phenomena of interest. The interest here was social change from adversity to wellbeing. The T-RES Framework integrated evidence from more than 50 years of resilience research and from extensive philosophy of science debates on social change, within Bhaskar's Critical Realism. While

falsifiable and adaptable, the T-RES Framework is a theoretical contribution to the EiE field and other fields of study regarding positive change from human and social adversity.

Qualitative Research and Causal Analysis

The impetus to my thesis was the need to explain complex causal change, beyond statistically assessed effect sizes and constant conjunctions of two variables or events. This required evidence of the "how" and "why" of change.

This thesis contributed examples of how qualitative causal analysis can be conducted. Moreover, it integrated the epistemological, methodological and empirical basis for qualitative explanations of causality. Critical realism, as a philosophy of science, questioned Humean conceptions of causality (constant conjunctions) and provided an epistemology that allowed engaging with causal powers of social entities, process, context, and non-observable causal forces. Abductive reasoning provided a causal analysis that engaged both empirical data and theorizing. Process tracing provided a methodology to collect and analyze qualitative data for a rigorous causal analysis. The debates on qualitative causal analysis are today giving way to actual approaches, and this thesis contributes to the work of other, more experienced, methodologists (Maxwell, 2004; Maxwell, 2004; Glaser & Laudel, 2013; Lukka, 2014; Palinkas, 2014; Glynn & Ichino, 2015).

8.3 Contributions to International Development and EiE Policy and Programming

The T-RES Framework provides a complementary approach to explain complex social problems, especially related to protracted emergencies and education response. It answers increasing demands for more relevant evidence and research methods by EiE researchers, policymakers and programmers. It also closes some of the ontological and epistemological gaps existing in the causal research methods preferred by international development agencies. These contributions are further explained next.

Contributions to Policy and Programming

This thesis provides some initial response to the call for more relevant evidence for EiE policy and programming. The use of the T-RES Framework can lead to theories of change[46] that are transformative, meaning that they address chain-reaction change across agents (individuals and communities) and structures (institutions and culture). Also, it guides causal analysis by combining generalizable knowledge of social change from adversity to wellbeing and local knowledge of the needs, contexts, and interventions in specific contexts.

Transformative theories of change can help design policies and programs that are both context-based and informed by transferable knowledge from other contexts.[47] The aim is not to recommend the replication of policies and projects designed elsewhere. Off-the-shelf policies and programs may not yield the same results even when their positive impact was evaluated elsewhere. The causal mechanisms generated by the T-RES Framework are generalizable to an extent. Local knowledge and designs must test their final utility in each context.

As will be explained in Section 8.3, more work is needed to operationalize the T-RES causal mechanisms to guide theories of change for policy and programming. However, this thesis has taken the first steps in providing more relevant evidence for EiE policies and programs. Table 8.2, next page, shows some of these contributions.

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[46] In program design and evaluation, the term "theory of change" refers to the causal assumptions policymakers and designers make in putting together a program (Weiss, 1995).

[47] Context-based designs informed by abstracted and generalizable knowledge on process and causal powers helped the important advances in information technology and artificial intelligence (Walls, et al., 1992; Pascal, et al., 2013).

Table 8.2. New Directions to Apply the T-RES Framework To Planning and Design of EiE Policies and Programs	
Outcome and Multiple Social Entities	The T-RES Framework can help in three ways: (i) the complexity maps can help decide on an equitable participation of local representatives of the social entities shown to play a key role in the causal process of interest; (ii) the critical analysis of risks and assets can serve as an initial assessment to define the problem and the change goals desired; and (iii) the causal mechanisms can help to better identify the complex interconnected goals (individual, community, structural) of a transformative process that can be expected as a result of a change process. A well-defined outcome becomes the compass for a policy and program design process.
Process	The T-RES can help open the black box of causation by identifying the purposeful practices leading to an outcome. The description of concrete examples also provides demonstration of how other contexts have achieved similar outcomes of interest. T-RES also can generate formal explanations of the causal mechanisms at play.
Underlying Mechanisms	The T-RES Framework and its critical analysis and uncovering of underlying processes can help pay attention to the emergence of hidden or unrealized causal forces, initial outcomes, and signals of the direction of the system towards (or away from the desired goal). Attention to signals of dynamic changes and direction of process is crucial to managing policies and programs.
Context	The T-RES explicitly engages with context and how it can facilitate or inhibit a process of causal change. This helps planners address them up front and have strategies and instruments to navigate them. As a result, these strategies and instruments are culturally and contextually significant (not developed elsewhere).

Ontological and Epistemological Blind Spots in International Development

The EiE field deals with life and death situations and providing relevant evidence for EiE practice, therefore, has ethical implications. If used alone, positivistic approaches for causal research (mostly preferred by international development agencies) can leave many blinds spots in our understanding of complex social problems such as violence. The T-RES Framework does not aim to compete with positivistic approaches, such as RCTs. The goal is complementarity.

RCTs have an important place in casual analysis. This was recognized by the recent Nobel Prize in Economics for 2019 going to Banerjee, Duflo and Kremer for their "experimental approach to alleviating global poverty" (The Royal Sweedish Academy of Sciences, 2019). However, more is

needed.   As one example cited in this thesis, Hoffman reminded us of the ethical pitfalls of indiscriminate social experiments, such as the study of cutting teachers' salaries and hiring them through short-term contracts in Africa (2018). Impact size effects do not, cannot, open the black-box of change, nor critically assess underlying causal forces. This thesis provided other ontological, epistemological and methodological options for understanding the underlying causal processes of complex social change.

8.4 Recommendations for Actors in the EiE Fields

I built my argument for a different causal analysis for complex social problems by noting the EiE shift towards protracted social problems. In addition to the overall feedback to researchers this thesis provides, there are also some concrete recommendations to policymakers, program designers, and funders (both of EiE projects and research).

To EiE Policy Makers: Rethink Policies and interventions. This study shows, using the TRES Framework, that El Salvador's attempts to mitigate violence were piecemeal, isolated and did not address the more complex causal mechanisms that sustain violence. Interventions, such as "mano dura" security, backpacks and materials for at-risk children, government mandated peace demonstrations, and even the political accords after the civil war, failed to bring about durable peace. Policymakers need to take this learning forward by developing holistic policies and interventions which deal with the diverse, but interdependent, drivers of violence at the personal, community and structural (institutional and cultural) levels. In education, these more holistic policies need to support school-born violence mitigation efforts, while facilitating community betterment and institutional reforms. This is not the responsibility of the education sector alone. Partnerships across different institutions and sectors are needed to implement holistic policies that address educational outcomes, protection, and well-being. Only together, schools and institutional actors, can contribute to violence-mitigating strategies that are impactful.

To Planners and Project Designers: Global Knowledge and Local Designs. The T-RES Framework integrated transferable findings from 50 years of resilience research, grounded on a critical realist understanding of social change and the causal powers of social agents and

structures. Its application to the case of El Salvador showed that accumulated global knowledge (such as 50 years of resilience research) can guide an initial understanding of very complex qualitative data. In turn, the added local knowledge (as exemplified by the empirical data of El Salvador) can generate transferable lessons to help in the design of context-based interventions elsewhere. However, the aim is not to replicate the specific interventions of the schools studied but to infer the underlying causal mechanisms. Project designers should remember Ramalingam's hypothetical example of flipcharts in the classroom improve learning (2013, p. 113). Such experimental evidence should not lead to buying flipcharts all around the world. The transferable knowledge is how and why the use of flipcharts contributed to learning: teamwork, building knowledge collectively, visually sharing findings, etc. These underlying causal mechanisms can be activated in different ways in different contexts.

To International Development Agencies: Support for Mixed Methods Research in EiE. This thesis showed that even EiE researchers committed to positivist causal rigor are demanding methods to explain complex causality. Development agencies should heed these demands. Explanatory causal research answers "how" and "why" questions and will require qualitative and theory-based approaches. The EiE field needs researchers and consultants specialized in mixed methods and open to working across research paradigms. Moreover, using the convening power of international organizations, EiE policymakers, researchers, program designers, and impact evaluators can come together to plan concrete ways to address complex problems together.

8.5. Limitations, Adaptations and Future Research

The theory building and testing of the T-RES Framework was a first attempt to provide a more relevant guide to understanding complex social problems, such as those addressed by the field of education in emergencies. Yet, more work is needed. First, a full abductive causal analysis is still missing, including the inductive "smoke-gun" tests and evidence. Second, causal mechanisms need to be further developed to guide theories of change, including the analysis of structural causal powers (institutions and culture). Third, more mixed methods causal analysis,

especially combining RCTs and qualitative methods, can be beneficial to close complex causality gaps.

Full Case Study and Abductive Analysis.

The demonstrative test of the T-RES Framework was not a full case study. Next, the T-RES Framework should be applied in a full case study that includes the four tests within the process tracing approach to causal analysis: hoops, smoking-gun, straws-in-the-wind and doubly decisive tests (Bennett & Checkel, 2015). These can help explain further the initial insights of a causal process. For example, in the demonstrative case of El Salvador, it would be important to understand how teachers' caring and small acts of service seemed to be needed to form alliances between schools and community. Personal empowerment seems to be a required characteristic of leaders as change agents. Also, further insight is needed on how 'assets' can be used to reproduce violence or to mitigate it, such as gang protection of teachers but also using "violence and death" as a tool for punishment.

Lastly, applications of the T-RES Framework in a full research endeavor can test the sensitivity of findings, using, for example, Bayesian Inferences (Mahoney, 2016). These are rigorous tests on how well the findings explain the outcome of interest and the credibility of the sources of data (Fairfield & Charman, 2015).

Underdeveloped Causal Powers for Social Structures

Although Chapter 7 developed an approach to infer causal mechanisms, there is still a need to better explain the causal powers of social structures and test further the causal mechanisms identified within a qualitative study.

Causal powers of agents were theorized and developed within this test of T-RES Framework (hope, intentionality, empowerment, etc.). However, causal powers of institutions (sustainability, control, etc.) and of culture (normalization of beliefs, norms and behaviors) need further development. This is especially important because sustaining any positive transformative outcomes (such as non-violent behavior) inherently requires cultural and institutional changes. Structural social entities scaffold new outcomes, behaviors and values, including through laws, policies and resources. For further research in this area, the field of

emergence (Elder-Vass, 2007) can be useful to better understand and uncover structural causal powers.

Accumulative Evidence for Generalizable Causal Mechanisms

Causal mechanisms are intended to guide theories of change across contexts. Through the T-RES Framework, causal mechanisms ("how and why" of change) are abstracted from empirical evidence. However, one empirical study alone may not be enough to define a generalizable causal mechanism. More testing is required, including through the review of literature in the relevant field (psychology, sociology, change management, etc.) or comparison of findings across different empirical studies.

In the T-RES demonstrative case, some generalizable causal mechanism for violence prevention in education systems can be identified for further testing. This can be considered initial hypothesis which include: collective intentionality, constantly renewed commitment, transformative leadership, collective and organized advocacy, and institutional scaffolding. Also, context field forces that can inhibit the actualization of causal mechanisms can be identified. Table 8.1, next page, provides examples of the plausible causal mechanisms emerging from the T-RES demonstrative case that would require further testing.

Table 8.1 – TRANSFERABLE T-RES THEORIES OF CHANGE SCHOOL EFFORTS FOR VIOLENCE PREVENTION IN EL SALVADOR
DESIRED OUTCOME (O)
Non-Violent Behavior Through Positive Educational Experience, Protection and Wellbeing of Students in Gang-Affected Communities
CAUSAL MECHANISM [M]
Collective Intentionality: This mechanism would explain how and why alliances need to be formed to build trust, including small acts of service between teachers and parents (and gang members), leading to mutual discussions about violence and the capacities present in the school, community and their members to achieve the desired outcome.   **Constantly Renewed Commitment:** This mechanism would explain how and why a common purpose for students' protection, learning and wellbeing needs to be built within the group of teachers, and between the school and the community, and the need for this commitment to collective action to be constantly renewed.   **Transformative Leadership:** This mechanism would explain how and why committed leaders act as change agents by rallying support, defining a set of interventions, and celebrating early successes.   **Collective and Organized Advocacy:** This mechanism would explain how and why organized communities gained skills and confidence to demand social services as well as advocate for institutional change (at least by noting deficiencies, for example, of the Ministry of Education, in the case of El Salvador).   **Institutional Scaffolding:** This mechanism would explain how and why structures must act to provide services aligned to the efforts and assets in communities and schools, and provide the needed policies, programs and resources to scaffold (sustain change). In the case of the El Salvador demonstrative case, this mechanism is inhibited.
CONTEXT FIELD FORCES (C)
The causal mechanisms above can be inhibited in at least three ways: - Obstructing the participation of a key social entity (e.g., teachers or students not involved in violence prevention activities);   - Preventing social entities from coming together (e.g., individuals in a community not organizing, and remaining isolated from each other).   - Not allowing the actualization of a causal power (e.g., not allowing a group of people to congregate, define a collective purpose, or advocate for change).

Mix Methods: RCTs and Qualitative Causal Analysis

More mixed methods research for complex problems is needed, although criticism against it exists. For example, combining RCTs and qualitative causal explanations would be beneficial. The former can explain size effects of some key interventions on the outcome of interest; the latter can explain the how and why of causality. However, critics point to the ontological and epistemological incongruences between RCTs, a beacon of positivism, and qualitative causal analysis within a Realist paradigm (Bonell, et al., 2012; Marchal, et al., 2013; Jamal, et al., 2015). The philosophical foundations of RCTs reject complexity, hidden and underlying causes, and context field forces (Marchal, et al., 2013).

While accepting that a researcher cannot have two competing philosophical frames (ontological and epistemological), at the methodological level, mixing might be possible. Under a Critical Realist epistemology, RCTs can be instruments to explore initial relations across an intervention and an outcome of interest. RCT researchers must accept that this is only part of a more complex causal analysis of diverse social entities, process, context and underlying causal mechanism. The RCT method would be at the service of a broader explanatory causal analysis.

In international development, a paradigm shift is needed away from the overreliance on the positivist view of causality ("constant conjunction") and its methodological "gold standards" to assess it. The added value of these methods is not denied, especially their contributions of quantifying the size of the effect an intervention has on an outcome of interest. However, a researcher must understand the ontological and epistemological bases of different methods, including their own. Especially for studies of causality, today there is advanced philosophical, theoretical and methodological knowledge advocating for mixed methods in the social sciences (Tashakkori & Teddlie, 2010). Ultimately, research validity and reliability rest on first choosing the methods relevant to the research questions asked (Bergman & Coxon, 2005).

Growing interest in complex causality and transformative resilience

Lastly for next steps, it is important to continue building on the knowledge and methodological contributions from the pioneers noted in this thesis. For example, Beach (2016) and Cartwright (2007) have contributed to operationalize the epistemology of complex causality. With

available methodological alternatives, Ramalingan and others (Ramalingan, et al., 2008) have advocated for a more rigorous commitment to complex causal analysis in international development.

In the field of resilience, the next challenge is to better explain the role of institutions. This goes beyond seeing institutions as just providers of services to individuals and communities, as noted by Ungar (2011a), but also the development of institutions to sustain resilience assets within a society overtime. This thesis has shown that the structural level of society (institutions and culture) have the causal powers to either sustain the status quo of adversity or scaffold the efforts of individuals and collectives towards wellbeing.   In international development and EiE, the structural foundations of resilience at the societal level are beginning to be explored, such as in the USAID's white paper on "Transforming Systems in Times of Adversity: Education and Resilience" (Shaw, 2019) and the guidance note by Interpeace (Simpson, et al., 2016) which emphasizes transformative resilience in post-conflict situation.

8.6. Final Reflections on my Theoretical and Professional Journey

This doctoral thesis is but the first milestone in my quest to understand the complexity of the education, emergency and development problems faced in context of adversity. From here I move in two directions, one related to research and the other to advocacy. The research commitment is clear. I will continue to apply, test and adapt the T-RES Framework through future research endeavors and methodological improvements, especially in qualitative causal analysis.
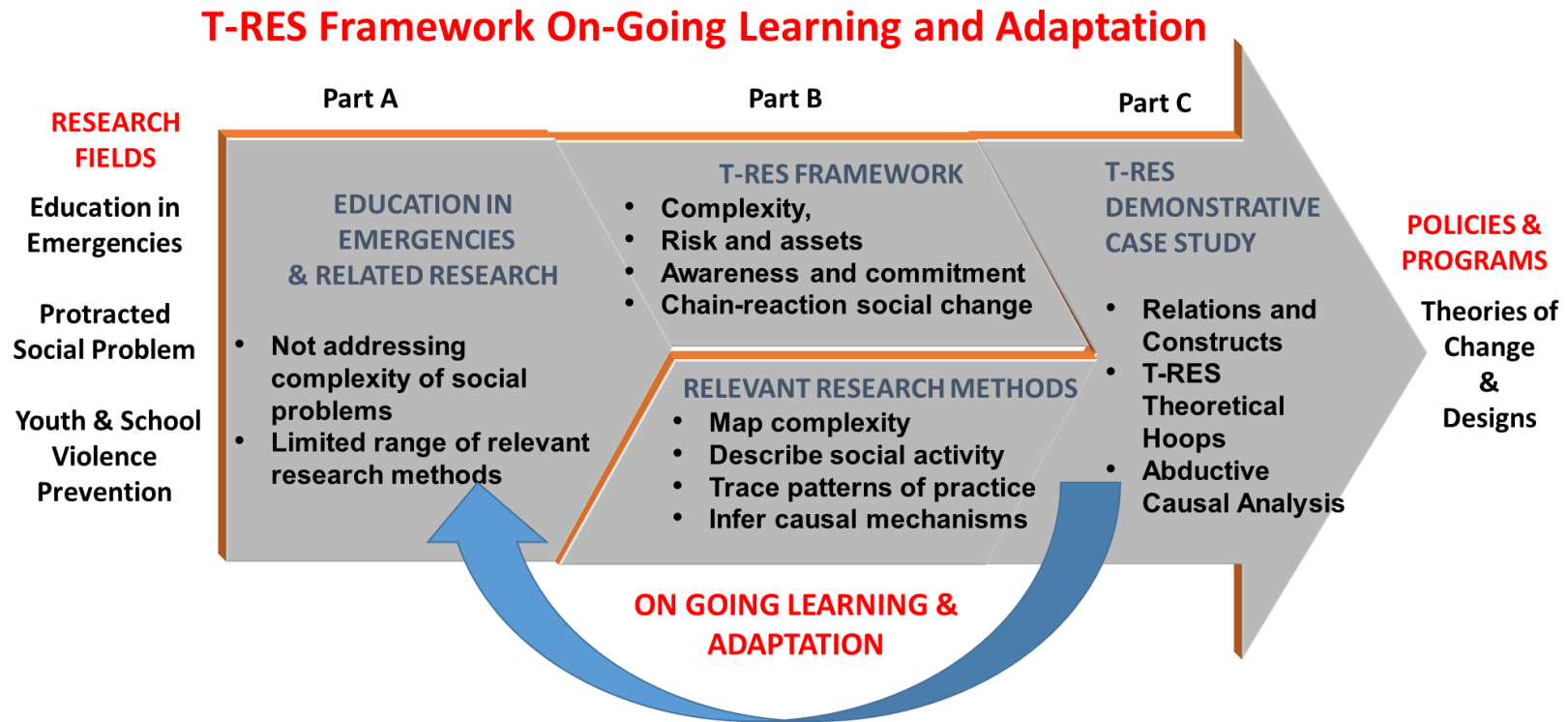
A commitment to complex causal analysis also requires advocacy. The prominence of quantitative and experimental research is deeply entrenched in international development. Especially in the EiE field, we need to move from just evaluating the impact of interventions (or the "effects of causes") to understanding the causal mechanisms of complex problems (or the "causes of effects"). This is not a small difference. The former causal analysis keeps us locked into just the replication of existing projects and interventions. The latter type of causal analysis, and in my view the most important, helps us understand the complex relations, processes, context and underlying causal powers of complex social problems. Consequently, I intend to

advocate for more complex causal evidence, using the professional and research platforms available to me in the EiE and international development fields.

Lastly, through the doctoral journey I discovered my preference to be a theoretical researcher. This is where my skills and natural analytical tendencies lie. As argued throughout this thesis, theories are not just insights, hypothesis or empty abstractions, nor preponderant grand explanations. They are explanations of a phenomena grounded in accumulated empirical findings. This thesis showed that qualitative explanations of complex causality requires the integration of theory and empirical research. As a theory-based researcher, I intend to pursue theoretical contributions to applied knowledge for policy and practice.

I hope my humble attempt to embrace such a complex issue, in my doctorate thesis, leads to constructive debates on complex causality theory and empirical evidence through qualitative and mix methods research. Indeed, Figure 8.2 (last page) is a reminder that my doctoral thesis is just the beginning of an ongoing journey for knowledge and advocacy.

Figure 8.2

T-RES Framework On-Going Learning and Adaptation

RESEARCH FIELDS

Education in Emergencies

Protracted Social Problem

Youth & School Violence Prevention

Part A

Part B

Part C

EDUCATION IN EMERGENCIES & RELATED RESEARCH

- Not addressing complexity of social problems
- Limited range of relevant research methods

T-RES FRAMEWORK

- Complexity,
- Risk and assets
- Awareness and commitment
- Chain-reaction social change

RELEVANT RESEARCH METHODS

- Map complexity
- Describe social activity
- Trace patterns of practice
- Infer causal mechanisms

T-RES DEMONSTRATIVE CASE STUDY

- Relations and Constructs
- T-RES Theoretical Hoops
- Abductive Causal Analysis

POLICIES & PROGRAMS

Theories of Change & Designs

ON GOING LEARNING & ADAPTATION

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ANNEXES

Annex 1.1 -- Guide to the Thesis Research Questions

This annex includes some additional sub-questions used to guide responses to the research questions, with the different parts of this thesis.

PART A

RQ1. What are the key evidence and methodological gaps in the field of education in emergencies, and especially in the role of education in violence prevention?

- What is the available evidence on the role of education in emergency and specifically in violence prevention?
- In what ways do conventional research methodologies contribute to understand (or not) complex social problems?
- What are the evidence and research gaps to engage with complex social problems, such as violence?

PART B

RQ2. How can critical realism and resilience provide the philosophical and empirical grounding to explain the complex process of social change from adversity to wellbeing?

- How does critical realism understand society and social change?
- How do critical realism and resilience explain chain-reaction change from adversity to wellbeing across the interactions of social agents and structures?

PART C

RQ3. How does a framework that combines critical realism and resilience tenets help us understand the complex education and social practices that contribute to violence prevention in El Salvador?

- In what ways does it capture the complexity of social entities and interactions in the role of education in violence prevention in El Salvador?
- How does it trace patterns of social activity in schools and other education settings that contribute to violence prevention in El Salvador?
- How does it explain the causal mechanisms that underlay the social practices for violence prevention in El Salvador's schools?
- How does it support critical analysis of hidden forces that inhibit or facilitate change?
  -

CONCLUSION – Chapter 8

RQ4. Considering the findings from testing the T-RES Framework, what is its utility as an analytical model and how can it be improved?

- How well does the empirical data align (or not) to the conceptual analysis proposed by the T-RES Framework?
- Which aspects of the T-RES framework can best help build theories of change for complex EiE problems?
- What revisions are needed to expand or reduce the scope of the T-RES framework?

Annex A.1 – Sample of Research Methods to Study Complex Social Phenomena			
Strengths and Gaps			
Method Type	**Strengths**	**Gaps**	**Sample Research Cited**
RCTs, surveys, correlational and other experimental and advanced statistical analysis	• Can measure one-to-one relation between single intervention and outcome • (RCTs) can evidence that single intervention and outcome variables move together (constant conjunction) in contrast to contexts without intervention • Can provide evidence that some "causal relation" is there	• Reduce complex phenomena to only some of their parts • Causal relation measured is linear and static ("constant conjunction" both variables move together at a specific point in time) • Do not explain how causal relationship occurs • Does not explain why a causal relation is expected to happen • Do not explain the field forces in context that can inhibit or facilitate causality (change)	• Nancy Guerra – Risk and Resilience Surveys (Guerra, 2005) • Joel Reyes and Joe Kelsey – Mali Education Risks and Assets (Reyes & Kelcey, 2014) • Sara Heller and Colleagues – Becoming a Man RCT (Heller, et al., 2015)
Case Studies and other qualitative methods	• Can capture the complexity of entities involved and their social activity • Can describe "how to" of causal processes • Can describe context and the field forces that inhibit or facilitate change • Comparative case studies generalize causal patterns across contexts	• Can remain at the dense description level • Criticized single case studies on their potential to generalize findings • Causality requires inferences from descriptive data that are, at time, not rigorous enough (not clearly aligned to data, supported by extant research, and with an underlying logic)	• Single Case Study on Streetworkers, Policing and Community Protection (Frattaroli, et al., 2010) • Latin America Smart Policing Comparative Case Studies in Latin America (WOLA, 2011)

Critical Analysis	• Uncovers hidden processes and causal powers • Best addresses causal powers of culture and institutions • Problematizes seemingly innocuous acts to access deeper 'truths'	• Findings are at times difficult to operationalize by planners and designers (of policy and programs) • Focused mainly on vulnerabilities, threats and misuse use of power (limited focus on hidden/underlying assets, strengths, and opportunities)	• Nazim Carrim – Post-apartheid Education System (Carrim, 2015) • Nini Hoffman Critic of Experiments on Reduced Teacher Pay in Africa (Hoffmann, 2018) • Ritesh Shaw – Critique of Resilience Approach in Gaza (Shah, 2015) • Mario Novelli and Colleagues – The 4Rs Framework (Novelli, et al., 2017)
Theory-based Research and Evaluation	• Abstracts and generalizes knowledge from empirical findings • Leads to theoretical frameworks that can guide (not determine) further research • Helps make sense of dense "descriptive" findings	• Risks being applied deductively and limit innovative future research • Rigor mostly expected from theory testing and not on theory building • If too high level of abstraction, loses alignment to empirical findings	• Katty Charmaz – Social Constructivist Grounded Theory (Charmaz, 2013) • Adele Clarke -- Mapping to abstract complexity of social problems (Clarke, 2005) • Vincent Pouloit --Process Tracing as Interaction Between Theory and Empirical Data (Pouloit, 2014) • Ervin Staub – Middle Range Theories on Bystanders and Street Heroes in the Face of Genocide (Staub, 1993)
Realist Approaches	• Provides ontological position to justify multiple social entities and causal powers • Explains that sense and non-sensed entities, powers and causal processes are real (even if not actualized empirically) • Links patterns of social activity towards a complex outcome (e.g., social change)	• Contentions with both well situated research paradigms, Positivism and Postmodernism • Until recently, limited methodological tools to apply Realist principles in research (example of exceptions: Joseph Maxwell, Realist Qualitative Research; and Pawson and Tilley Realist Evaluations)	• Ray Pawson – Realist Impact Evaluations (Pawson, 2013) • Nancy Cartwright – Capacities and Causal Powers (Cartwright, 2007)

	• Explains causality in context but extracts generalizable change mechanisms	• At times, considered deterministic (not neutral: preempting outcomes and processes)	

Annex B.1— Social Entities and Their Causal Powers

Critical realism dictates that a rigorous explanation of causality in a social system must reference the causal powers or capacities of individuals, collectives and structures. These capacities contribute to a desired outcome when actualized in purposeful systematic social practices. Some general references to such causal powers are included here.

Individuals/Agents: Individuals are endowed with capacities that contribute to causal processes. These include the capacity to reflect, visualize the future, hope, define goals, motivate, convince, and act in a variety of ways. Reflexivity is especially important (and it can be normative, critical or strategic and lead to personal empowerment and agency ((Kemp, 2014).

Collective Causal Powers: Individuals possess a range of capacities, but not all are fulfilled in one person. Groups come together as an ensemble of different skills and capacities (strategic, tactical, critical, social). When working in groups, communities or organizations, agents shared their specific contributions towards a common goal. Collectivities can be informal or formally organized with specific positions, tasks and responsibilities across members. The causal powers of collectives are not just an aggregation of the capacities of the individual members. Rather, communities and organizations have their own causal capacities that are not present in a single individual: integration (directing multiple single activities to a common goal), augmentation (enhancing the capacities of a single individual), and structuration (bridging agents and structures) (Maton, 2008a).

Structural Powers- Institutional and Cultural: The causal powers of institutional structures rest in their capacity to sustain in the long-term social aims, organizations and behaviors. They use laws, policies, strategic plans, hierarchical structures, and budgets to scaffold societal structures. For example, laws dictate the behavior of the overall citizenry of a country. National strategic plans and programs define the services to be provided, to whom and by whom (Skogstad, 2004; Delbridge & Edwards, 2013; Ungar, 2018). Causal powers of institutions can influence what agents do, think and reproduce (Foucault, 1980). The causal powers of culture are to reproduce and internalize beliefs, values and expectations of behavior across a collective

of people (Fanon, 1967; Bourdieu, 1989). Culture can also scaffold a process of social change by

creating a new set of shared beliefs, norms, and values aligned to the intended social outcome.

Annex B.2 – Critical Realism and Resilience Integration for a Social Transformation Framework	
Basic Complexity. This phase maps the social entities at play, the way they interact, and the complex issues for attention in each context. It is expressed in one stage: complex causality.	
COMPLEXITY Illuminate the complexity of social entities, properties and causal powers for adversity and transformation	**Critical Realism:** Starting with Bhaskar's critical realism first moment (1M), there is a stratified reality in addition to diverse social entities with real properties and powers that produce and reproduce contexts of adversity but also can transform that reality. These ways in which these social entities come together towards a social outcome of interest needs to be identified in each context. **Resilience Integration:** Both critical realism and resilience examine the complexity of agents, communities, institutions and culture in each context. Resilience explains the protective and promotive pathways within the complex interdependence of diverse social entities. Critical realism provides an ontological understanding of how various causally efficacious entities interact with each other, and how outcomes are produced through the ensemble of their causal powers.

Dialectical Struggle and Unity. This is a phase of awareness and discovery of both the underlying structures that sustain the status quo of adversity and of the assets available for a transformative journey. It is expressed in three states: Critique, Assets and Praxis.	
CRITIQUE OF SOCIAL ADVERSITY Engage in critique to identify risks and expose adversities	**Critical Realism:** The second CR stage engages with the ills in society and seeks to understand the underlying structures, i.e., what produces and reproduces the adversity. It fills the analytical gap left by risk assessment and surveys that produce lists of categories and types of threats, vulnerabilities and risks. **Resilience Integration:** The second edge (2E) of Bhaskar's system recognizes an adverse world where injustices and contradiction occur and provides a critical lens to engage with these absences (Bhaskar, 1993). Resilience refers to this as the assessment of "risks—any potential human, social, institutional, or cultural threats that can inhibit achieving a desired goal in the face of adversity. (Reyes 2013). Resilience studies have considered maladaptive coping, social

	injustices, and lack of accessible social services for the vulnerable (Ungar, 2008). Critical realism exhorts strongly that a critical approach is foundational to change and transformation.
ASSETS AMID ADVERSITY Leverage assets, strengths and opportunities for change	**Critical Realism:** The third CR stage pays attention to human assets, strengths and causal powers that facilitate transformation. It is a total and unified understanding of the dialectical tensions of risks and assets in a journey from social adversity to wellbeing. Internal strengths dialectically confront the equally powerful forces of adversity. For Bhaskar these assets include 'practical wisdom', 'inner truth' and an 'axiological moment' (1993, p. 9). **Resilience Integration:** This stage has been foundational for resilience-based understanding of the pathways that protect people from risks and those that promote desirable outcomes (Masten & Obradovic, 2008; Zimmerman, et al., 2013). From a resilience perspective, assets add value towards achieving a desired goal in the face of adversity and are key to identifying leverages to recover, perform, and transform in extremely difficult situations.
PRAXIS Informed Action: Demonstrates Awareness, Commitment and Preparedness for Transformative Change	**Critical Realism:** The fourth CR stage denotes consciousness, empowerment and capacity for transformative practice in the face of adversity. This dimension requires the previous phases, especially the dialectical interaction of uncovering the underlying structures of adversity (2E) and the identification of exiting assets, strengths and opportunities for change (3L). **Resilience Foundation:** In Bhaskar's Critical Realism, transformative praxis implies action with learning, the integration between what is possible (theory) and what is available (practice) (Bhaskar, 1993, p.9). In resilience, this stage of transformative praxis occurs through a person's awareness, self-understanding, emotional management, and purpose in the face of adversity (Reyes 2013).

Meta-Reality and Personal and Collective Agency for Structural Change. This phase traces a human-centered journey of empowerment and transformation and connects agency with structural change. There are three transformative stages	
PERSONAL TRANSFORMATION Awareness, empowerment and personal change for agent led purpose and practice for social transformation	**Critical Realism:** The entry point for a transformative practice is personal change and empowerment. Agents who think, feel, act and are guided by real transcendental forces for change: inward reflexivity, one's concept of self, empowerment, sense of efficacy, and right action. **Resilience Integration:** In Critical Realism, agents can initiate the process of sustaining or transforming undesired structures (Bhaskar, 2002a), triggered by their own personal experiences, values, and motivation to work for society. Resilience supports this philosophical proposition of personal transformation triggering community betterment, agents' organization, political advocacy and institutional change. Maton's work on personal, group and civic empowerment exemplifies this process across contexts (Maton, 2008a). For other social change thinkers and researchers, personal transformation is also a critical component of social transformation, for example as foundation of transforming violence to sustainable positive peace (Freire 1994, 1996, 2001; Galtung 1969, 1990; Staub 2003, 2011).
COLLECTIVE & CULTURAL TRANSFORMATION **Re-enchantment through collective agency and cultural shifts**	**Critical Realism:** At this stage, personal transformations of agents lead to collective action. Their individual perceptions of self, others, social structure, and even of nature have shifted towards improving collective structures such as culture, systems and structures). Diverse agents, recognizing their inter-dependence and win-win from a transformed society (archer), connect around a higher collective goal. Re-enchantment with the possibility of a society that transforms adversity is possible at this stage, as tangible (sometimes subtle) signs of positive change emerge. **Resilience Integration:** Critical Realism and Resilience transformation is a chain-reaction change across social entities. An important connection is the merging of agent causal powers in a collective of normative, critical, strategic and tactical forces. This requires embracing the diverse personal experiences, perceptions, and causal powers with a focus on a shared social goal. A collective aim also connects the diverse actions needed to achieve complex social goals. A shared goal is sought through diverse innovations, interventions and practices in

	various settings including in schools, businesses, universities, theaters, childcares, governmental offices, and courts. Based on a common ground, multiple agents can contribute and learn through their independent inputs to transformative change (Kaufman, 2000; Weisbord & Janoff, 2010). Signals of collective efforts for change leads to what Bhaskar calls "re-enchantment with the world." Such re-enchantment and sense of practical agency converts individual empowerment and community betterment into forces for cultural, political and other structural transformation.
SOCIAL OUTCOMES AND STRUCTURAL SCAFFOLDING **Zone of structural scaffolding for social achievement and preparation for continued transformation**	**Critical Realism:** This last stage is the zone of achievement for transformative efforts. It is not an end as transformation is continuous and other adversities, absences and contradictions may still exist or emerge. However, it is time to recharge, celebrate, and be grateful. Also, it is the zone to provide structures to sustain social goals that have been achieved, for example, through laws, policies, institutions, and resources. This is what the concept of "scaffolding" entails. **Resilience Integration:** In Bhaskar's so-called spiritual phase of meta-reality, paying attention to the human spirit is just as important as efforts to change structures, such as unjust economic system. Moreover, they are interrelated (Bhaskar, 2012a). Without moments of celebration, even of small successes, transformation will be completely exhaustive and draining. Also, resilience studies have noted that resilience is a process not a fixed state. We show positive outcomes in certain areas of our life but not in others (for example resilience in professional challenges, but not in interpersonal relations, or vice versa). There could also be multiple adversities and new challenges (Masten 2001, 2006).

Annex B.3 – The Underlying Logic of T-RES Constructs & Theoretical Hoops	
Social Change	**Points of Integration**
BASIC CRITICAL REALISM AND RESILIENCE WITHIN A SOCIAL ECOLOGY	
Level 1 -- Complexity of Entities and Causal Powers.	CR and Resilience intersect at the complexity of social change and the need to understand how different entities in society contribute to create the desired outcome. Causation occurs in a multi-layered society across different social entities (individuals, groups, organizations, and culture) and other social, political and economic structures. CR emphasizes these complexities of causal powers from multiple social entities and, within them, the potential for social change. CR also points to the importance of paying attention to, both, observable and non-observable causal processes and powers. Reality is stratified: there are empirical observations, actual social interactions and processes, and unobservable but real causal powers. In turn, resilience studies have shown that recovery, functioning and positive change amid adversity occurs as a process of interactions in a social ecology (with multiple social entities), it is not an individual trait.
DIALECTICAL CRITICAL REALISM AND RESILIENCE ASSETS AMID RISKS	
Level 2 – Critique of Social Ills	Bhaskar's CR and Resilience are both interested in the process of change from adversity to wellbeing. Understanding adversity, therefore, is central to both the ontological and empirical explanations. Studying risks critically can help uncover the underlying structures that sustain adversity, including oppression and exclusion of marginalized and vulnerable groups. Critical approaches that question status quo and seemingly innocuous social processes –in both CR and Resilience – help uncover underlying powers and mechanism that sustain injustices, exclusion, violence and other social ills.
Level 3 – Assets Amid Risks	Adversity and risks are held in dialectical tension with strengths and opportunities in adverse contexts and within vulnerable individuals. Critical Realism has upheld this point in Bhaskar's Dialectical CR (level 3). Resilience explicitly seeks to identify and understand assets for positive change amid adversity. However, critical analysis is also needed when assessing assets in vulnerable communities. The focus must not be on vulnerable individuals fending for themselves, but on providing the structural resources to enhance, support and create opportunities and strengths for positive social change.
Level 4 – Praxis.	For individuals and communities facing social ills, access to knowledge and awareness is part of a resilience and empowerment process. Conscientization regarding the forces that contribute to adversity and personal and

	collective empowerment can create hope and purpose for change. Praxis – knowledge for practice and action – is a foundational end-points of Bhaskar's dialectical CR and a prerequisite for social action and change.
METAREALITY AND CHAIN-REACTION RESILIENCE	
Level 5 – Personal Transformation.	Personal empowerment is a critical component of social transformation. Resilience studies and Bhaskar's Meta-reality philosophy have emphasized a humanistic entry point through agency as a trigger to ignite chain reaction transformative change across social entities. Adverse contexts traumatize, disempower, and disenfranchise potential agents of social change. However, aware, empowered and resourceful agents can interact with others and with social structures to enact social transformation. Just as we cannot obviate the causal power of social structures to sustain adversity and social change, we must also understand the critical role of personal empowerment in social transformations.
Level 6 – Collective activity and change.	In resilience and CR, agential powers are actualized (used and emerge) in collective social activity. Through social interactions, humans contribute and combine their different strengths and causal powers. These can reproduce undesirable social structures such as violence (or inequities, exploitation, or deprivation), but they also have the power to transform them (Bhaskar, 1998, p. 36). Bhaskar's Transformational Model of Social Activity (TMSA) provides an ontological foundation for causality and potential change within collective social activity. Resilience studies show that positive change in the face of adversity is a process that also happens within the collective interaction of communities of empowered individuals.
Level 7 – Structural Scaffolding	Personal and community change can lead to cycles of structural changes (Bhaskar 2002, 2012a, b). Transformative resilience occurs in social ecology through interactions across people, communities, organizations and relevant (available and accessed) social services. However, these personal, community and organizational changes also require further structural scaffolding for their sustainability. Long-term structures such as institutions, laws, policies and services must be put in place to continue providing protective and promotive services to vulnerable communities in times of adversity. However, change is unceasing as there are other and new social ills to address. And so, transformative resilience is not and end-point, but on-going.

MAPPING, DESCRIBING, INTERPRETING AND INFERING

Methodologically, the T-RES analysis includes four types of qualitative analysis, applied in sequence: mapping complexity, describing social activity, interpreting patterns of social practice, and constructing causal mechanisms. These are detailed below for researchers wishing to replicate the process.

1. **Mapping the context of the social entities involved (agents and structures):** From the outset, it is important to embrace the complexity of a social research problem and its context. Visualizing the networks of actors, communities, organizations, institutions involved in the problem will demonstrate the complex relations and views of adversity, as well as desired outcomes, in a social ecology. A complexity map can show the different social entities, relations and multiple meanings associated with the adversity context and the desired wellbeing.

2. **Describing the social activity related to the desired outcome:** The researcher describes the social activity related to an outcome (e.g., violence prevention in schools). It is useful to construct vignettes or narratives of the situations and the context of adversity and change. These ground the analysis and show its real-world complexity. To identify which social activities can be related to a specific social ill and desired social change, T-RES theoretical hoops can guide an initial analysis of the data. For example, qualitative data can be coded for (i) adversity and assets (strengths, opportunities, services); (ii) the level of awareness and commitment to address the social adversity; and (iii) the commitment and actions at the personal, collective and structural (organization, institutions) levels. A critical approach must be included to identify empirical signals that may point to hidden processes, including contextual forces that can inhibit or facilitate the causal process of interest.

3. **Tracing social activity to abstract purposeful and systematic practices leading to the outcome (the "how" of causality):** This analytical phase organizes and isolates the how-

to component of a potential causal mechanism (action with a purpose) and seeks
<u>sufficient</u> empirical evidence ("smoke gun" test) to connect the purposeful social
practice to the outcome. Based on the descriptive analysis of the social activity, the
researcher traces empirical evidence on (i) the outcome, (ii) purposeful systematic
practices leading to the outcome of interest; and (iii) context field forces. "A purposeful
practice" as opposed to an activity selects a pattern of social activity that seems
systematic in both intent and action (Schatzki, 1996).

4. **Inferring causal mechanisms: how and why?** The last analytical step within the T-RES
   Framework is to construct "causal mechanisms" that can guide the context of study and
   other similar situations elsewhere. Generalizability is possible by abstracting the causal
   process ("how") from context-specific social activity, to patterns of purposeful social
   practice. Moreover, more generalizable knowledge can be provided by the inference of
   the properties and causal powers of social entities involved and how they merge as a
   causal ensemble for the outcome of interest. This is the "why" component of a causal
   mechanism.

Across the above four types of qualitative analysis, the T-RES Framework uses an abductive
analytical approach to (i) compare the case empirical data against the theoretical hoops of the
T-RES Constructs; (ii) search for new, surprising and unique case specific empirical evidence
connected to the outcome (smoking gun tests); and (iii) retroductively reconstruct a causal
explanation (in the form of "how and why" mechanisms).

Annex C.1 – T-RES Demonstrative Case Study – Coding and Analysis Guides

Instrument 1. 1		
T-RES MAPPING: CODING GUIDE		
Research Phase	**Coding Category**	**Analysis Areas or Questions to Generate Codes**
Complexity Maps	Social Entities	• Individuals and Collectives • Organizations (less formal) & Institutions (formal) • Culture and "Actants" (things that may play a role in a causal process)
	Networks of Inter-relations	• Select core entities or units of analysis of study (e.g., schools and gangs) • Who do they interact with? • Who do they interact with more often? • How interacts with more diverse social entities? • Who are the nodes with more "traffic" of interactions? • Are there other important secondary interactions to the unit of analysis (e.g., outside schools and gangs)?
Meanings Map (Constructivist Approach)	Adversity (specific of interest to the study: e.g., violence in schools)	• Definitions of violence_____ • Sources of violence _____ • Who/what to be blamed for _____
	Wellbeing (specific of interest to study: e.g., violence prevention)	• What is a positive change outcome or goal • Potential solutions to achieve positive change • Sources or examples of positive change
	Adversity to Wellbeing Process	• Role or Contributions of Unit of Analysis (e.g., education, education system, schools) in preventing violence

	Instrument 1.2		
	T-RES DESCRIPTIVE AND CRITICAL ANALYSIS OF SOCIAL ACTIVITIES TOWARDS OUTCOME OF INTEREST		
Descriptive Components	**Event and Outcome of Interest**	**Social Activity (Story)**	**Core Entities Involved**
1.A Activity and Purpose	Example: Organized recesses to support respectful relations during play	• Start, Sequence of Events, Surprising Moments, Turning Points, End, Closure	• Who? Where? When? • With What?
1.B Critical Analysis of Risks and Assets:	What other social activities demonstrate risks against or support for this activity?	• What are the threats and vulnerabilities against these activities and participating social entities? What are its strengths and opportunities?	• Who? Where? When? • With What?
		• What looks positive, but it is negative, normalized, silenced? • What looks negative, but it is positive, normalized, ignored?	
1.C Field Forces in Context that inhibit the activity and/or its aims:	What social activities or entities external to the school facilitate or inhibit this social activity?	• -Who or what can prevent this social activity from taking place • - Who or what can facilitate/protect this activity?	• Who? Where? When? • With What?

Instrument 1.3				
T-RES INTERPRETATIVE ANALYSIS THRU PROCESS TRACING				
OUTCOME OF INTEREST	**SOCIAL ACTIVITY**	**INTERPRETATIVE ANALYSIS**		
Violence Prevention Related Outcome	Social Activity	Patterns of Practice Towards Outcome of Interest	Principles (Major Lesson Learned About Causal Process)	Chain Reaction Change: individuals, groups and structures (institutions and culture)
Outcome 1. Reduce deadly weapons in schools	1.a E.g. Armed guards and metal detectors for the security of students and teachers	• Armed guards biased against minorities and students with tattoos • Tensions and complaints from older students and teachers about guards • Guards become violent • 4. Etc.	• E.g., Violent measures to counteract violence tend to reproduce more violence	• E.g., At the individual level, students and teachers are intimidated by police. • Collectively, students seek protection by joining or befriending gangs. • Institutionally, the school loses authority, as it is transferred to the security sector.

Instrument 1.4				
T-RES INFERENCE ANALYSIS OF CAUSAL POWERS OF ENTITIES AND ACTIVITIES TOWARDS OUTCOME OF INTEREST				
GENERALIZABLE PRINCIPLE AND TRACED PROCESS	**CAUSAL PROPERTIES**		**ENSEMBLE OF SOCIAL ENTITIES (SOCIAL ECOLOGY)**	
	SOCIAL ENTITY	CAUSAL POWER	SOCIAL ENTITIES INVOLVED	SEQUENCE OF CAUSAL POWERS
Outcome of Causal Mechanism: Caring and Respectful Behaviors Among Students				
A1. Teachers assuming a more direct "values enforcing" role for students Caring time with teachers outside of academic time Organized and thoughtful activities to show and try interpersonal values and behaviors Etc.				
A.2 Field Forces in Context that inhibit or facilitate social entity, causal powers or ensemble:				

Instrument 1.5		
Proposed Process for T-RES Iterative Data Analysis and Theorizing		
Organizing Data Sets (Transcripts and Coding)		
Open System: Core and Context	**School-Based Interviewees**	**Context Interviewees**
Outcome and Sub-System of interest: Violence Prevention in Schools	• Principals • Teachers • (Students in interaction with teachers only. No interviews)	• University researchers • Policymakers • NGO and international agencies (planners and program design)
Social Activity: Coding and Thick Description	• **Open coding:** for social activities related to outcome of interest. Continue to code for interesting and surprising activities. • **Axial coding:** integrate activities when needed to reach a clear systematic social activity towards the outcome of interest. • **Focused coding and descriptive process:** note key sequences of activity and do thick description (who, with whom, with what, when, where?).	
Theorizing and Inferring		
Theorizing from Data	**Abstracting Patterns of Social Practice from Observed Social Activity** Examples: • Principal creates trusting relations among teachers and awareness of their positive role for students living in violent communities • Principal and teachers planned activities that show care and model respect and care for others • Teachers provide close and caring time outside of academic time • Organized and thoughtful activities during recess show and practice interpersonal values and behaviors • Etc.	
From Extant Theory to Data	Identify extant theories related to the emerging causal mechanism and use its related principles and lessons learned to generalize findings across contexts.	

From Data to Theorizing, to Theory	Combine generalizable knowledge and theories with context-based findings to infer the causal powers of social entities participating in the causal process identified:
	Examples:
	• **Individual:** commitment, decision-making, active participation, courage, etc.
	• **Team of teachers:** mix of skills, planning, time commitment, etc.
	• **Institution:** school resources but ministry resources missing
	Extant Knowledge on types and properties of entities exist in scientific and research fields. For example, the following can be consulted for different types of causal powers:
	Examples:
	• **Individuals:** neuroscience and psychology show people's capacity for reflection, planning, commitment, and action
	• **Community:** psychology shows groups capacity for collective purpose, beliefs, values, and mix of skills.
	• **Culture:** Sociology and anthropology show culture's capacity for creating collective values and norms, normalizing behaviors, etc.
	• **Institutions:** Change management and political science demonstrate the power of institutions to create laws, policies, national programs and resources that can sustain goals and social activity overtime. It also shows the institutional privileges of some actors over others.