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Norm Contestation and Its Effects on Emergence of a New Norm

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ABSTRACT

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The objective of this study is to propose a theoretical model to investigate the mechanism by which contesting of a harmful legal norm by powerless individual actors results in the emergence of a new norm. While much work has been done on norm contestation at the "actor level" in the field, the structural conditions under which contesting of harmful norms by powerless individual actors lead to emergence of a new norm have been insufficiently studied, especially in the non-democratic cultural context. I developed a model that combine existing causal theories in one frame to reproduce observe conditions in the real world to determine necessary structural conditions for the emergence of a new norm by powerless individual actors.

A modeling and simulation method and, more specifically, the theoretical model building paradigm is used to develop the model. Social identity theory and the system dynamics modeling approach are used to respectively build the conceptual model and implement the simulation model. The model is tested and compared within two types of communities: democratic and loose vs non-democratic and tight.

My findings determine necessary structural conditions for the emergence of a new norm. Indeed, my model's result show that education among others play the main role in the process of norm emergence which is consistent with the previous literature. Moreover, the model's results demonstrate that while average-strength harmful norms can be replaced in democratic and loose societies, only weak norms can be replaced in non-democratic and tight societies. Finally, the

simulation model introduces new counterfactual generated hypothesis that can be further tested through empirical studies.

This dissertation is dedicated to my mother, Sarvgol:

Thank you for believing with me that this day would come.

To my father, Iraj:

Thank you for keeping me motivated during this journey. I celebrate this dream with you the most.

To my husband, Manuchehr:

Thank you for your unwavering support and encouragement.

To my sons, Arteen and Aveed:

Thank you for gifting me a new identity.

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NOMENCLATURE

BIT	Bilateral Investment Treaties
FIT	Feed-in Tariffs
RPS	Renewable Portfolio Standards
M&S	Modeling and Simulation
CLD	Causal Loop Diagram
SIT	Social Identity Theory
SD	System Dynamics
R	Reinforcing
B	Balancing
AT	Adjustment Time
LC	Learning Coefficient
IS	International Studies
IR	International Relations

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INTRODUCTION

"One has not only a legal but a moral responsibility to obey just laws. Conversely, one has a moral responsibility to disobey unjust laws."

Martin Luther King Letter from the Birmingham Jail, 16 April 1963

Many Afghans flee to Russia with the hope of building a better life and to make their dreams come true. Fahima and her family are among many refugees who dream of attending university in Russia and becoming doctors in order to serve others. However, when she and her husband were settled in Russia, they learned that refugees are prohibited from attending university by law. Thus, she found all her dreams shattered and she had to stay home as a housewife. Although some might think that this law is beneficial as it saves educational and job opportunities for Russian citizens, others would perceive the law as discriminatory. One of the very clear advantages, alongside others, of allowing refugees to go to university became obvious during this current pandemic. People like Fahima could be a significant help to society. This is just an example; there are many other cases of restrictive and harmful norms enforced by governments across the world. These consist of discriminatory norms against religious, ethnic, and gender minorities. Such norms need to be challenged and, ideally, changed. While governments are not willing to change those laws and most other countries follow a non-intervention foreign policy, it is mainly up to a country's residents to contest and challenge these laws. But this process of norm contestation has been insufficiently studied in the field. As a result, this study proposes a theoretical model which provides one potential explanation about the mechanisms under which contestation of a harmful norm by powerless individual actors results

in the emergence of a new norm. It will be useful to define norm and contestation as two key words before proceeding to the next section.

Wiener defined contestation as a "social practice [that] entails objection to specific issues that matter to people;" in "international relations, contestation ... involves the range of social practices which discursively express disapproval of norms."[1] In this case people are potentially contesting what they perceive to be a harmful norm. Thus, it is appropriate to define norm as well. Scholars define a norm as "a standard of appropriate behavior for actor/actors with a given identity (Finnemore, 1996; Finnemore & Sikkink, 1998; Klotz, 1995).

Research Background

Because norms are studied across disciplines and with varying perspectives, each field studies the part of norms which are of particular interest for their discipline. As a result, there exist several types of norms and it is necessary to differentiate them. We can define three major types of norms at different levels: individual/private, social, and legal. The moral norm is a norm that can find a place on any major types of norms, based on the situation and culture of the society (Harms & Skyrms, 2008). An example is a norm that prohibits abusing children which could be a legal norm in some societies and an individual norm in others. Thus, we do not study it separately. Individual or private norms are mostly value driven. Values are abstract general standards (Dechesne, Dignum, & Tan, 2011). They are linked to concrete behavior by norms. In other words, norms are tools to fulfill the goal/value (Vickers, 1973). Integrity and feelings of guilt are the main motives for obedience (Dechesne et al., 2011). Usually, people are willing to promote their values, especially when there is a problem that is not compatible with their values. As a result, they define individual/private norms as a tool and as an appropriate behavior to solve

[1] Wiener, Antje. *A theory of contestation*. Springer, 2014.

the problem, gain something beneficial, or avoid something bad, and to reach the value (Vickers, 1973). Individuals act and promote their values and if a considerable number of others observe the norm, then the individual norm has the potential to become a group norm and maybe later a social norm. However, when it comes to a group/social norm or legal norm, we are talking about shared values rather than personal values. Thus, group members follow group norms to achieve the groups' interests and values. It should be noted that both legal and group norms are shared, but they have some major differences. While the legal norm is a top-down phenomenon and usually power related, the group/social norm emerges through individual interaction and is a bottom-up phenomenon. Table 1. summarizes all three types of norms.

Table 1. Different Types of Norms

Type of Norms	**Individual/Private Norm**	**Group/Social Norm**	**Legal Norm**
Description	Norm that agents develop privately over their lives	Norm that emerges among people	Norm that is imposed by the central authority on the community
Fields' Point of View	Implicit and value driven	Interactionist view (bottom-up)	Legalistic view (top-down)
Enforcing Mechanism	Feeling of guilt/ lower self-esteem	Peer-pressure/exclusion	Physical sanction

No matter the type of norm, punishment is used as an enforcement tool. There exist three main punishment mechanisms in the literature: emotion-based punishment, punishment based on

reputation, and physical sanctioning which usually applies to individual, group, and legal norms. In what follows, I explain each with more detail:

I. Sanctioning through Emotion approach: Scholars believe that emotions lead to norm enforcement. An emotional agent may be abandoned by society if others don't like it. Because of this, they may experience shame or guilt as a result of norm deviation. In other words, in this approach violators are punished through their emotions.

II. Sanctioning through Reputation approach: This approach is based on the opinions of other members of a group or society toward agents. That opinion might be positive or negative based on the way an agent chooses to behave. In this approach, agents comply with most of their groups' members to maximize their utility by safeguarding their positive reputation.

III. Sanctioning through punishment approach: The most common form of norm enforcement is punishment. One of the most famous works in this area is Axelrod (1986). Using a game theory approach, he shows how punishing violating agents is essential in the process of norm enforcement. Punishment in this approach could be physical or could include monetary sanctions.

Table 2. provides a brief summary of sanctioning mechanisms.

As discussed, sanctioning is the main mechanism used to enforce a norm and, as a result, target populations will follow a norm to avoid punishment. Norm-oriented constructivists traditionally assumed that violation of a norm results in punishment. This approach to the study of norms mostly ignores the subjective role of norm takers and considers no agency for norm takers to violate the norm. However, later, a group of scholars made a shift in norm study and began considering an active role for norm adopters. Based on this approach, norm takers think about

the norm; they understand and interpret norms differently, and thus norms are not linear (Acharya, 2004) (Acharya, 2013). The current wave of constructivist norm-study scholars claims that norm takers, in unique situations, can contest the dominant norm. For example, China recently did this with the European Union's norm of assistance during humanitarian crises. They modified it to reflect what the United Kingdom and the United States did after WWII, when it was the norm to plunder (Sandholtz, 2008). Along with advancement in norm contestation theories at the international level, scholars also pay attention to changing norms through contestation at the domestic level. Sikkink (2013) investigated the role of the Bush administration in changing a norm of torture during the conflict between the United States and Iraq (Heller, Kahl, & Pisoiu, 2012) that was focused on norms of counter terrorism.

Table 2. Norms Enforcement Mechanisms

Mechanism	Characteristic	Reference
Punishment	Utility maximization, monetary sanctions	Axelrod (1986); (y López, Luck, & d'Inverno, 2002)
Emotion	Negative and positive feelings such as: satisfaction, pride, contentment; shame, guilt, embarrassment	von Scheve, Moldt, Fix, and von Luede (2006) ;(Keltner & Haidt, 1999)
Reputation	Positive or negative opinion about a person, peer pressure, exclusion	Hales (2002); (Castelfranchi, Dignum, Jonker, & Treur, 1999)

However, the contesting literature only emphasizes and investigates the role of powerful actors. But what about powerless ones? For a long time, this question had no answer,

but Wunderlich's study shows that powerless norm contesters can challenge the existing norm and define their own norm (Wunderlich, 2020). That study caused a significant shift in the field by introducing the idea that state level norm breaker actors can potentially be norm promoters at the international level. In contrast with the dominant perception in the field, contestation is not always considered unacceptable. That study supports the findings of other scholars that a contester's level of power is not the only determining factor, and under suitable structural conditions, even powerless actors can change a norm. What I investigate in this research is:

Under which conditions do powerless individual actors' contestation of harmful dominant norms cause the emergence of new norms which result in changes in states' behavior.

To answer the research question, I propose a theoretical model to explore the mechanisms under which norm contestation by powerless actors causes the emergence of a new norm at the domestic level. Theoretical modeling is one specific paradigm of Modeling and Simulation. This paradigm is a multi-step process composed of building a conceptual model, a causal loop, and a simulation model and, finally, analyzing the result to generate a new theory and new insights that contribute to the field.

To build the conceptual model, I use social identity theory. I consider a reverse causality by assuming first, if contestation happens at the appropriate time, it results in positive feelings at least among a part of society. Next, I look at punishment as a potential facilitator of increasing violation versus merely serving as the main tool of enforcing a norm. By answering this question, I aim to provide one potential explanation and interpretation of the mechanism under which theoretical norm contestation results in norm emergence. From a theoretical standpoint, this will contribute to the constructivists' norm contestation theories and from a methodological

standpoint, it offers a cause of behavior where the field mostly studies phenomenon from an individual perspective.

Chapter Overview

Chapter 2 reviews the existing literature on norm study in international relations. To do so, I divide the existing literature into two separate parts: first waves of norm study, which are divided into three categories; conformance to a norm, spreading of a norm, and emergence of a norm, and their applications in several sub-fields like political economy, security, human rights, democratization, environmental issues, and energy study. At the end of this section, I discuss three major critiques toward the first wave of norm-oriented constructivists which shifted the field into the second wave. In the next section, I discuss the second wave of norm study which contains two main groups: compliance and contestation. In this part, with an emphasis on the current literature on contestation, I bring up a question in the area which this study intends to address. Finally, in the last section, I discuss this study's contributions to the field.

Chapter 3 provides a detailed explanation of the research method. This chapter begins with a broad overview of the potential value of a modeling and simulation approach, and then discusses one specific modeling and simulation paradigm used to address that question—the theory building paradigm. This paradigm is a multi-step process which begins by constructing dynamic hypotheses or a conceptual model regarding the research question. Causal loop diagrams are then used to depict the conceptual model and to build a simulation model. After building a simulation model and having it validated, there is a need to determine a combination of parameter values to answer the research question. The answers the model provides will contribute to and expand the literature on norms.

Chapter 4 describes social identity theory which is the foundation for the conceptual model. In this chapter, I build the conceptual model or dynamic hypothesis which is composed of 42 claims and assumptions. After that step, as in Chapter 3, the causal loop diagrams are used to depict the logical relationships between norm emergence variables. For the purpose of both clarity and structural verification I explain each loop separately: in total there were 12 balancing (B)loops and 17 reinforcing (R) loops. Through this qualitative model two new contributions to knowledge emerged; first, government punishment of violators causes angriness which increases risk taking and more violating actions. Second, angriness due to governments' punishment resulted in more group behavior and as a result increased the number of new norm followers which, in turn, influenced other non-group members to adopt similar perceptions. Thus, punishment might, depending upon the magnitude of these effects, play the role of an accelerator in those cases rather than a prohibitor.

Chapter 5 turns a qualitative model into a computational model. Although the qualitative model provides us valuable insight regarding the research questions, to get deeper insight and more details I need to construct a simulation model. The system dynamics modeling approach is used to implement the conceptual model which is built in Vensim. To explain the simulation model, I combine guidelines for simulation-based models in social science (Rahmandad & Sterman, 2012) with examples from the literature (Pierson & Sterman, 2013). The model I construct consists of five sub-models: "Perception of Similarity," "Perception of Dissimilarity," "New Norm Internalization," "Emergence of New Norm," and "Exit." While explaining each sub-model, I discuss all variables and parameters in detail including their description, their units, and respective equations for both clarity and reproducibility. At the end of this chapter, I test the model structure and behavior to ensure confidence in the model and its results. To test the

model's structure, I use the structure-verification test, dimensional-consistency test, and boundary-adequacy test. For the model's behavior test, I apply the behavior-reproduction test, extreme condition test, and sensitivity test.

Chapter 6 examines a series of experiments that build from a baseline model with assumptions intended to model an emergence of a contesting norm in both democratic and non-democratic cultures. To analyse the results of each experiment, I use a path dependence approach. In this chapter, I provide answers to this study's main question and explain the mechanisms under which a new norm might emerge in both democratic and non-democratic cultures. I examine the consequences of study assumptions regarding anger as a response to attempted suppression of deviations from the norm. Then, I investigate the impact of showing extreme behavior during collective actions and its consequances. After that, I test the importance of norm-antipreneurs to promote the old norm and keep the status quo in this dynamic process of transferring from old norm to a new norm. Finally, I study whether contestation of an old norm results in different or similar results when there exists less pressure and punishment.

Chapter 7 concludes this research by summarizing the answer to the main research question which comes from the new theory/model developed through this study. That answer contributes theoretically to the constructivists' contestation theory by advancing our understanding of the mechanisms and dynamic processes by which powerless actors' contestation within a community causes the emergence of new norms that affect state behavior. Although this study has a very important and unique contribution to the field, it has its own limitations. The simulation model can be improved in some ways which I explain in this chapter. Indeed, most of the initial values are a scientific guess, so the study would benefit from a collection of real-world data to optimize the model in the context of specific applied cases.

LITERATURE REVIEW

Introduction

Norms and norm emergence have long been of interest across disciplines from sociology to psychology to communications to international relations (IR). This chapter reviews the existing literature on norm study in IR. I first discuss how norm study found its way into the field through constructivist scholars and became accepted as an important school of thought in IR. Then, to explain the existing literature, I divide it into two separate parts. The first part consists of the first wave of norm study which is subdivided into three categories: conformance to a norm, spreading of a norm, and emergence of a norm. I also outline their applications in several sub-fields like political economy, security, human rights, democratization, environmental issues, and energy studies. At the end of this section, I discuss three major critiques toward the first wave of norm-oriented constructivists which inspired a group of scholars in the field to shift into the second wave. In the next section, I discuss the second wave of norm study which contains two main groups: compliance and contestation. In this part, with the emphasize on the current literature on contestation, I bring up an open question in the area which this study will address. Finally, in the last section, I discuss this study's contributions to the field and end the chapter with concluding remarks.

Norm Study in IR

The study of norms has not been a traditional aspect of IR, which is primarily focused on material and rational arguments about the interaction of states in world politics. Neorealists believe that the anarchic system of the world caused insecurity and distrust among states (as the main actors) and made them seek more of a portion of relative power or security (materialistic).

In other words, realists and, more specifically, neorealists mostly see the structure of the international system as the distribution of material. On the other hand, Neoliberalism as another critical school of thought in IR focuses on the distribution of capabilities and institutions; they see new actors such as international institutions and trade organizations as cooperation coordinators. However, in the 1980s, constructivists started to challenge the dominant schools of thought by suggesting the importance of normative structure in IR. Thus, norm study in international relations is principally a study offered by constructivism, which has its roots in sociology.[2] By proposing this new approach to study IR, constructivists challenged the dominant countervailing approaches. Scholars such as Kratochwil and Ruggie (1986), Onuf (1989), Ruggie (1993), and Wendt (1987, 1992) are among the early constructivists who established new approaches in IR. Some of the new approaches noted in their work are:

1. Important aspects of politics are socially constructed vs. being fixed
2. Intersubjective reality vs. objective subjective reality
3. Ideational structure, based on identity, vs. materialist structure
4. Commitment to mutual constitution of the agent-structure problem

These features enabled constructivists to address one of the most important questions in IR differently: what runs the international system? Recall that in the realist school of thought, anarchy is fundamental in the international system, which causes uncertainty among states. Realists believe that the anarchic system of the world causes insecurity and distrust among states (as the main actors) and makes them seek a larger portion of relative power or security

[2] Classic sociology considers a norm as a behavioral pattern which is imposed by structure/society (macro-level) to individuals (micro-level) to make sure that the entire structure works appropriately (Durkheim, E. (1964(1982)). "The Rules of Sociological Method by Emile Durkheim Edited with an Introduction by Steven Lukes Translated-by WD Halls." From provided reading material: Social constructivism (From: https://en. wikipedia. org/wiki/Social_constructivism# Social_constructivism_and_social_constructionism) Introduction and. Se1ection C. ; Spencer, 1897; Parsons, 1937).

(materialistic). However, Wendt (1999) argues with Waltz in that he ignores the role of individual identity and intersubjective shared understanding (norm) in the shaping of initial behavior and identity of states in world politics. For Wendt, states are self-organized units that have an initial identity. These states can redefine and reconstruct their identity through social interaction in the system. This constructivist feature enables constructivists to study how a state, as an agent or actor, might change its norms and behavior as a result of interaction with other states. Early constructivists primarily studied norms through this lens.

Initial Wave of Norm-Oriented Constructivists

After establishing a new approach in IR, a group of constructivists shifted their attention to norm study; they are called norm-oriented constructivists. Defining norms was a matter of controversy for a while. However, consensus rose among scholars that a norm is "a standard of appropriate behavior for actor/actors with a given identity" (Finnemore, 1996; Katzenstein, 1996; Klotz, 1999). So far, there exist two main waves of norm study in this school of thought. The initial wave of norm-oriented constructivists' studies can be classified into three main categories: Conformance (Normative Behavior), Spreading (Socialization), and Emergence (Normative Emergence).

Conformance (Normative Behavior)

This group mainly studied how an existing norm affects behavior inside the community and how it stabilizes expectations in the community. Scholars in this area proved, in contrast with what scholars previously believed, that norms mattered and that there is a conformance to the norm (Yee, 1996). In other words, community behavior was bound around existing norms and, in the case of new norms, behavior would build around emerging norms. Conformance norm scholars mostly study norms from a structural perspective. Norms are independent

variables; they constitute actors' interests and their understanding of the material worlds. Indeed, they make political behavior possible or constrain it. Scholars like Barkin and Cronin (1994), Finnemore (1996), Finnemore (2003), (Katzenstein, 1996), Klotz (1999), Legro (1996), Price (1997), and Tannenwald (1999) are among those who worked in this area.

Spreading (Socialization)

Another group of constructivists study how a norm diffuses through socialization. "Socialization is aimed at creating membership in a society where the intersubjective understanding of the society becomes taken for granted" (Johnston, 2001). The goal of this group is to study how a given norm in the community is diffused to actors outside the community (Checkel, 2001; Johnston, 2001; Keck & Sikkink, 1998; Risse-Kappen, 1994; Risse-Kappen, Risse, Ropp, & Sikkink, 1999). This group focused on the mechanism through which a single established norm diffuses, such as coercion, competition, emulation, and learning.

Emergence (Normative Emergence)

This group investigated how an idea became a norm (Finnemore & Sikkink, 1998; Nadelmann, 1990) and why some ideas successfully achieve normative status while others do not (Cortell & Davis Jr, 1996, 2000; Finnemore & Sikkink, 1998; Legro, 2000; Payne, 2001) There is huge overlap with the socialization literature here regarding the mechanism by which an idea becomes a norm and how norms spread (Finnemore & Sikkink, 1998). Scholars offered several different driving factors for norm emergence such as hegemony, leadership and non-leadership entrepreneurial endeavors, international organizations, and activists (Finnemore & Sikkink, 1998; Ikenberry & Kupchan, 1990; Keck & Sikkink, 1998; Legro, 1996). Finnemore and Sikkink (1998) proposed one of the most dominant works in this area, which is known as "norm life cycle," which served as the keystone of many later studies.

What Is a Norm Life Cycle?

A norm life cycle consists of three steps: norm emergence, norm cascade, and internalization (Finnemore & Sikkink, 1998). Norm emergence is the initial stage in which norm entrepreneurs find a problem in the dominant norm, try to call attention to the problem, and later replace it with the new norm which is more beneficial for the society. Norm entrepreneurs could be leaders, Non-Governmental Organizations, International Organizations, and civil society which aim to change states' behavior. This entrepreneur plays a crucial role in creating and spreading the norm. Between stages one and two, there is a tipping point such that norm adaptation becomes increasingly fast or, in other words, a norm cascade. At the final stage, when many actors accept the norm and internalize it, the norm is taken for granted and it shapes behavior. This idea was furthered developed by Moskovko (2012), to include conceptualizing more specifically the tipping point beyond which norms tend to be adopted by all members of society. Figure 1. depicts the resulting norm life cycle. I loosely borrow this image from Moskovko (2012).

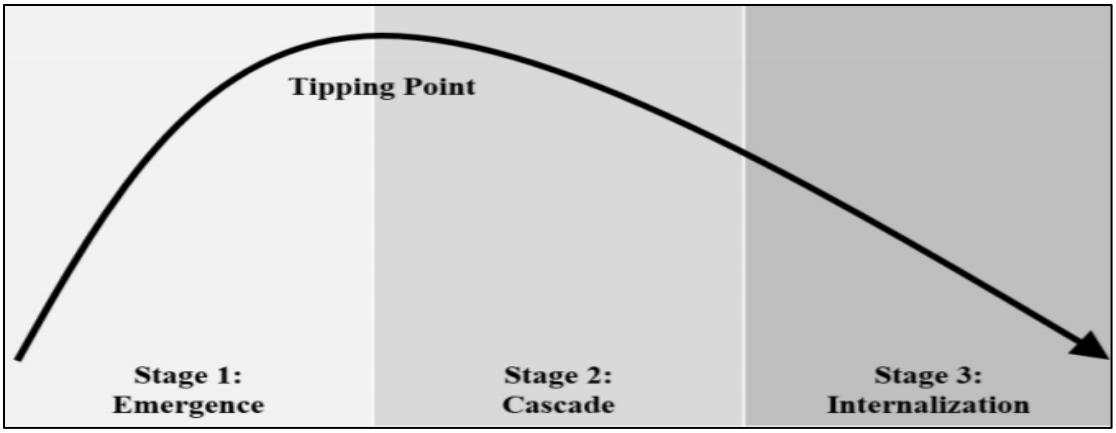

Figure 1. Norm Life Cycle

Application of Norm Study in IR

This initial wave of theoretical norm study was followed by other scholars who conducted several important empirical studies applying norms in different areas that were previously ignored in IR like human rights, development, security, and some other sub-fields. Constructivist scholars initially were focused on efforts to advance this field theoretically, to ground those theories, and to strengthen the constructivist claim in the field. Later, a significant number of empirical studies were conducted. In what follows, I provide the main empirical studies in the field.

Political Economy

Political economy is one of the fields that has been of interest for norm study scholars. There exist several studies to determine why some monetary norms do or do not diffuse in the international system and what main mechanism for diffusion is (Elkins, Guzman, & Simmons, 2006; Henisz, Zelner, & Guillén, 2005; Simmons & Elkins, 2004).

In this area, Simmons and Elkins (2004) study the diffusion of the liberal economic norm in the international system. The authors mostly focus on attempting to find out why many political economy models have not captured the effect of the important liberal economic norm sufficiently since it has a huge impact on the life of millions of people. The results of their study show that states' foreign policy is significantly influenced by their international peers, activity around monetary policy. In other words, governments, through their social interactions, try to compete or simply just emulate their peers. This study belongs to the first wave of norm study and can be classified as part of the conformance group.

Elkins et al. (2006) similarly study why diffusion of bilateral investment treaties (BIT)—which are among the most important international legal mechanisms for encouraging

governments to engage in foreign direct investment—has become so common in the last decade. The evidence from their empirical study proves that coercion, competition, and learning play important roles but that emulation does not.

Conflict and Security

Work involving norms in this area mainly study how norm emergence and spreading affect the field of security. Areas like war, prohibition of the use of weapons of mass destruction, and terrorism are among the most widely studied areas.

Tannenwald (1999) tries to address why WWII was the only time during modern warfare that a nuclear weapon has been used and why the prohibition of nuclear weapons after WWII became one the most important issues in IR. He believes, in contrast to the widely accepted belief, that deterrence cannot provide a complete explanation and the normative structure plays a major role in explaining why nuclear weapons have not been used since 1945. He analyzes four historical cases: the United States' decision to use nuclear weapons against Japan (1945), the Korean War (1950-53), the Vietnam War (1960s), and the Persian Gulf War (1991). In this empirical study he puts emphasis on the deterrence theory explanation's anomalies. For example, in the Persian Gulf War and the Vietnam War, the United States opposed the absolute power of the Soviet Union and there was no fear of retaliation, but the United States did not use it. Indeed, deterrence cannot explain why a non-nuclear state would attack a nuclear state. This occurred when China attacked United States forces in the Korean war and when Iraq attacked United States and Israeli forces in the 1991 Persian Gulf War. He also argues that if deterrence matters, it doesn't follow that there are many states that have not yet developed nuclear weapons. As a result, the notion of using nuclear weapons as normative stigma should be considered in this prohibition or that, without it, there would be more use of nuclear weaponry. Thus, conformance

to the norm of the prohibition of using nuclear weapons is necessary for this explanation. In another study, Price (1997) explains how the moral stigma of using chemical weapons in war results in the conformance of states during the war. In the realm of human rights, Klotz (1999) explains how the United States and the United Kingdom acted to condemn apartheid and to encourage the global community to conform to that norm which resulted in the anti-apartheid movement.

Democratization Study

One of the other areas that norm study scholars show interest in is democratization. They ask themselves whether democratic norms emerge in post-soviet countries. If democratic norms of the European Union have been spread among those countries, what are the important factors in this process? Moskovko (2012) studies the spread of democratization and European laws in two eastern countries: Georgia and Ukraine. He uses the norm life cycle theory (Finnemore & Sikkink, 1998) to address the dynamics behind the successful (as in the case of Georgia) or the lags in (current situation in Ukraine) norm diffusion. The results of his study show that geographical distance does not play a significant role in this process but ruling class elites' decision making does. This reinforces the portion of norm life cycle theory in which Finnemore and Sikkink (1998) discussed how it is important to convince elites to be engaged.

On the other hand, scholars such as Starr (1991) around a similar question about what causes the spread of democracy in Eastern Europe, concludes that norm diffusion happens with the democratic norm because of the international system, regional system, and the effects of neighboring states. Other empirical studies examine what effect the political norm change since the end of World War II has had on states. The results prove the importance of external conditions, like the geography of a country, in moving to democracy or autocracy. For this group

of studies, the international system and state environment play a major role. Thus, it seems that both the international system and state social interaction with the domestic situation affect elite decision making (O'loughlin et al., 1998). Similarly, Gleditsch and Ward (2006) argue that the spread of democratic norms is due to forces outside the country and because of changes in the relative power of important actors or groups. Brinks and Coppedge (2006) also find that the main factors in democracy diffusion are states' emulation of their neighbors.

Human Rights

One example of empirical study in this area is a famous body of work by Risse-Kappen et al. (1999), which influenced many subsequent studies. The authors' main attempt in this book is to study how human rights norms have influenced or changed the behavior of several countries including Kenya, Uganda, South Africa, Tunisia, Morocco, Indonesia, Philippines, Chile, Guatemala, and Eastern Europe. These countries represent five distinct regions of the globe: Northern Africa, Sub-Saharan Africa, Southeast Asia, Latin America, and Eastern Europe. The results of this study prove actors such as transnational activists, international organizations, and powerful western states as well as mechanisms like persuasion, sanction, coalition building, and domestic institutions are very important to socializing an offensive state toward a new norm.

Similarly, Keck and Sikkink (1998) study the factors that affect and change states' and international organizations' behavior. They emphasize the importance of transnational activists and international campaigns that were mainly ignored in political science. In contrast to prevailing theories in the field, those activists and campaigns, which the authors called "advocacy networks," act due to their value system and not based on material interests. The authors took historical cases in the realm of human rights like foot-binding in China, women's situation in Africa, and environmental issues. They conclude that transnational activities play an

important and inevitable role in persuading states and international organizations toward new norms.

Other scholars explore the enforcement of international humanitarian norms in Latin American countries. Lutz and Sikkink consider three different norms: prohibition of torture in Uruguay and Paraguay, prohibition of disappearances in Argentina and Honduras, and the right for democratic governance. The study shows that the human rights norm has been enforced, in all three cases, through various legal and political mechanisms (Lutz & Sikkink, 2000).

The labor rights norm and its diffusion are also of interest to researchers. Scholars tried to evaluate the progress of labor rights in developing countries through cross-national methods. The results show that labor rights in the exporting countries will promote labor rights in importing countries. (Greenhill, Mosley, and Prakash, 2009). In another study, Greenhill (2010) made a cross-national analysis to find out the role of international organizations in the spread of labor rights norms. The results show a significant direct correlation between these two factors.

Environmental Issues

Haas (1992) was mainly interested in how a norm of protecting the ozone layer emerged. In other words, he wanted to know why countries with different political, social, and cultural backgrounds supported the Montreal protocol. The study suggests that an entrepreneurial leadership approach made it possible. The United States, Canada, Finland, Norway, and Sweden were the first countries that supported this protocol and they encouraged other countries to join the protocol; subsequently, the norm of protecting the ozone layer emerged.

Energy Study

In her studies Alizada (2017, 2018) examines the four main diffusion mechanisms to find out which ones play an important role in spreading two renewable energy norms: feed-in tariffs

(FIT) and renewable portfolio standards (RPS). The study findings prove that emulation is the most important mechanism in the diffusion of FIT and RPS. In addition, both learning and suasion mechanisms were supported by the studies' results, while there was no support for a competition mechanism.

Taken together these bodies of empirical literature strengthen the position of the first wave of norm study in constructivism. However, critics of this initial wave emphasized that considering norms as static and relatively constant is a simplification in norm dynamics. In other words, one of the constructivists' main claims is that norms shape and reshape through the dynamic interplay of agents and structure. This claim should lead constructivists to consider a norm as an entity that is dependent on the community of actors who believe in and practice that norm. It also enabled constructivists to consider norms as dynamic which might strengthen, weaken, or evolve through agent-structure interaction. But scholars in the first wave ignore that dynamic interplay and consider norms static entities. They emphasize conversion and neglect compliance and/or contestation.

Secondly, this way of studying norm diffusion was a successful linear progress which means there is not a real agency for targets of socialization, and they cannot violate the dominant norm. This neglected the dynamic of compliance and potential contestation of the dominant norm. Any example of norm violation disproves constructivists' claims. Other factors, such as material or rational ones, must be considered (Shannon, 2000). Most of their work focuses on the conversion compared to contestation (Nadelmann, 1990).

Finally, this wave focused on the study of norms from international and transnational actors, such as norm entrepreneurs or social movements (Keck & Sikkink, 1998; Nadelmann, 1990; Risse-Kappen et al., 1999). This ignored the role of the domestic political structure, as

well as organizational and cultural variables in conditioning the reception of new global norms (Checkel, 1998, 2001; Cortell & Davis Jr, 1996; Legro, 1996; Risse-Kappen, 1994) or other types of entities such as regional, national, or even subnational groups (Legro, 1996). These factors led a group of scholars to begin a second wave of norm-oriented constructivism to consider a norm as a dynamic entity which depends on its norm takers' community.

Second Wave of Norm-Oriented Constructivists

The second wave of norm-oriented constructivists attempted to address norm compliance and norm contestation. This directly challenged the static feature of norms in the initial wave. Second wave scholars focused on the conceptualization of the relationship between actors and norms, which itself has roots in the broader question of whether actors reason through the norms or if they reason about the norms, which is known as behavioral logic (March & Olsen, 1998). The logic of behavior plays a crucial role in norm study and has divided constructivists across a spectrum. At one end, scholars believe that a norm is something external to agents (at least somewhat) and they can reason about it and manipulate it. At the other end of the spectrum, a norm is something that shapes the agents' understanding and their view of the world, thus they reason through the norm.

The second wave of norm-oriented constructivists emphasized behavioral logic to address the two main remaining challenges in the field: compliance and contestation. They addressed compliance by explaining how actors react to external norms by using logic of consequence. In this logic, actors look for what will maximize their utility. Actors can therefore reason about the possible behaviors and decide how to behave (March & Olsen, 1998). Contestation, on the other hand, explains how norm adaptors can change the meaning of a dominant norm through their interpretation of an action in line with those interpretations using logic of appropriateness. In this

logic, actors only behave based on what is appropriate in a specific situation and they can never significantly remove themselves form their social structure to make independent judgments (March & Olsen, 1998).

Compliance

This group stayed close to the initial wave. They considered very important and active roles for agents; agents can stand outside their normative context and reason about the norm. The focus of this group is to understand why some transnational ideas or norms will be successfully accepted in some locales, but not in others e.g. (Acharya, 2004; Capie, 2008; Cortell & Davis, 2005; Farrell, 2005; Kornprobst, 2007; Mastenbroek & Kaeding, 2006). Acharya is one of the pioneers in this group who offers the importance of agents' cognitive acceptance. He explained that the replacement of a good global norm with a bad local norm is not that easy because sometimes it is a part of normative context. He proposed that norm diffusion is a dynamic process in which agents reconstruct an external norm in the way that matches their local norms and practice. He called this process "localization," (Acharya 2004) which is different from mere acceptance or rejection of the norm.

Another work in this area that received much attention is Checkel's (1998) definition of "cultural match" and its importance. This described a situation when a global norm is convergent with all the local norms, the legal system, the discourse, and the bureaucracy. It is important because there is a direct relation between norm diffusion speed and the cultural match. More importantly, if there is not a cultural match, national discourse rejects the global norm (Corrales & Feinberg, 1999).

Cortell and Davis (2005) offered the importance of "fit" between global norms and local norms in the process of norm diffusion and compliance. A global norm is not something given to

the state (external and static). Rather, it needs compliance through the dynamic process in which states interact with the norm and localize it. As a result, states, as actors, play a significant role in this process beyond being passive and might even manipulate the meaning of the norm (Ba, 2006).

Finally, Acharya (2013) also proposed an alternative framework of norm circulation. This framework does not confine actors' responses to a norm as rejection, adaptation, or resistance. Instead, actors might provide feedback to the norm and send a new version of a norm to the global system. Norm-oriented constructivists, after addressing some open questions from the first wave via compliance, turned their interest toward contestation in the current wave.

Contestation

Contestation is a different way of studying norms from compliance. While focused on compliance scholars mostly studied how actors socialized an external norm. However, they also studied contestation within a community of norm acceptors. This group believes actors reason through the norm. The questions they try to address are: how can norm acceptors understand the norm in which they exist and, potentially, how can actors contest and reconstruct the norm of community? Like compliance, in the context of contestation, a norm is not something static. From this perspective, although a norm brings stability and normative context, it is also a dynamic entity. It can change every day based on the actors' beliefs and actions. As a result, normative context is not something static (Sandholtz, 2008). Previously, a norm was considered something that norm acceptors follow without challenge. However, scholars argue that considering norms "a cause for behavior" is to ignore the conflicting situations (Wiener, 2004). They claimed norms are unable to define all possible behaviors and a definite rule for all situations (Gregg, 2003; Hoffmann, 2005; Van Kersbergen & Verbeek, 2007). This group more

recently shifted to pay closer attention to the situation in which actors contest the social rule and whether this action modifies/reshapes social rules and/or specific actions. Accordingly, actors as subjects interpret and understand the general rules and decide how to behave (Cederman & Daase, 2003; Chwieroth, 2008). Actors within a community of understanding vary and this might cause a gap and contest between general rules and specific situations.

Sandholtz (2008) stated that "social rules guide the conduct of actors but … actors constantly reshape the rules because the inescapable tension between general rules and specific actions ceaselessly casts up disputes, which in turn generate arguments, which then reshape rules and conduct." He studied a wartime plunder norm and how contestation against it changed the normative context (Sandholtz, 2007). While plundering was acceptable for centuries, Great Britain contested that norm after Napoleon's defeat—maybe because it was never conquered by France—and argued against the normative/legal context that France should not be violated. Great Britain used its undeniable diplomatic power to affect this change. Later, an anti-plunder norm became institutionalized after WWII and Western states' opposition against Soviet plundering of Germany entrenched it further. Thus, after this contestation cycle between social rules and specific situations, a new norm might strengthen, weaken, and be replaced by an old norm, but it always becomes something different. Sandholtz's study proved that sometimes norm contestation behavior can change the normative context. In his case, a norm violator was a prominent and powerful actor in IR, and they used their diplomatic power.

Although, in the example above, the United Kingdom, as a strong actor, was able to contest and successfully change a norm, this is not always the case. As Deitelhoff and Zimmermann (2020) mentioned, contestation has not always resulted in a complete norm replacement. In a newly published book series, Johansson-Nogués, Vlaskamp, and Barbé

(2020) show how great power contestation challenges have occurred but have not led to complete replacement of the norm and values. For example, Vidal (2020) observed that China is one of the powerful actors that have contested the European Union's norm of protecting citizens in the case of humanitarian crises. The European Union, as one powerful actor, believes there is a responsibility to intervene when innocent citizens are influenced, as in the case of genocide. China perceives this as intervention in another state's sovereignty, which is in contrast to its belief of a non-intervention foreign policy. In consequence, China used its veto power with regard to intervention against the Assad regime in Syria and challenged the global norm.

In other studies (Klossek, 2020) shows how rising conflict in many parts of the world like Afghanistan, Somalia, and Yemen made some big powers, like India, contest the global norm of keeping local power engaged in the process of peace building. European Union policy makers believe in the norms that local powers need to be involved in the process of peacebuilding. India perceives this norm to be not as useful as it should be and in consequence is contesting this norm and challenging European Union values.

The level of analysis in the norm contestation branch of constructivists is not limited to the international level. There are also studies that focus on the domestic level of analysis. As states like the United Kingdom or China, as a strong actor, can contest and challenge the global norm at the international level, there exist powerful actors like states' elites or government officials within states that can challenge or change a dominant norm at the domestic level.

Another group of constructivists' scholars has been studying how powerful actors can challenge a dominant norm at the domestic level. Barnes (2016) investigated how the Bush administration tried to revise the norm of torture and use it to its benefit. However, this study

shows that torture remains taboo in the United States and the Bush administration's attempt was unsuccessful.

Sikkink (2013) discussed that how a "relatively small group of powerful political operators" inside the United States during the Iraq war sought to undermine the norm of torture to make these actions legitimate. In another study scholars examine how governmental actors challenged the global norm of human rights after the 9/11 attack by giving priority to the norm of counterterrorism (Heller, Kahl, & Pisoiu, 2012).

It is not surprising to see that strong actors can change the global norm, but how about less powerful actors? This aspect of norm study in IR has been mostly ignored until recently. Acharya (2011) developed a theory based on Slaughter's (2004) idea of "norm subsidiarity" and considered agency for weak states like the Middle East, Latin America, and African countries. This proved that sometimes non-prominent state actors can contest and develop new regional rules and norms, then offer those norms as another way to understand the global norm (e.g. Pan-Arabism in the Middle East as opposed to the global norm). His work showed that weak states' contestations, in contrast to the dominant belief in the field, mattered, and they have agency to make changes.

Another important study of weak state contester, known as "rogue states" in the IR literature, provided norm researchers with some new insights (Wunderlich, 2020). In ***Rogue States as Norm Entrepreneurs***, the author investigates the arms control policy of the Islamic Republic of Iran, in which Iran traditionally has been considered as a norm breaker and irrational. However, this study reveals that Iran can also be recognized as a legitimate and rational norm entrepreneur (creator). Indeed, this research sheds light on the factors that are important for contestation to be successful. This study is considered a state of the art in norm

study in IR. In fact, it proves that contesters' power level is not the sole determining factor in whether contestation is successful, as it was perceived traditionally. There are other structural and process factors which play important roles. These need much more attention and research.

So far existing literature focused on non-powerful actors is mainly at the international level of analysis. Although the domestic level got some attention in the past, it was primarily about powerful actors being the contester. But how about norm contestation by powerless individual actors at the domestic level of analysis? Can norm violators, which the literature considers to be outliers, and who were punished both by their government or their peers, challenge or, ideally, change a dominant norm within their society? This is the question that this study aims to address.

There are some successful examples of citizen contestations in the past like LGBTQ rights in most Western countries, and abortion laws in Canada, Ireland, and elsewhere. Those examples support scholarly claims that actors' level of power is not the only determining factor in changing a norm. Under suitable structural conditions, even powerless actors can trigger change in a harmful norm (Deitelhoff & Zimmermann, 2019). However, those conditions and the mechanism under which powerless actors' contestations result in change or challenge of harmful norms have been insufficiently studied and this study attempts to address this void in the literature.

Problem Statement and Modeling Question

Constructivist school of thought is considered a bottom-up approach in IR, but what they offer so far about study of the norm is mostly a top-down approach by powerful states or other powerful actors. Much later, and more recently, scholars in this school proposed the real bottom-up approach in norm study. They emphasized that weaker states as agents can interpret a

dominant norm differently and oppose it. But what about individual citizens within a state? Constructivists claimed that domestic collective beliefs and prevailing norms impact political leaders' decision making and, later, states' behavior (Cortell & Davis, 2005; Sjöstedt, 2007; Wendt, 1999). They consider norm study a mutual constitution of agent-structure. Thus, while states' policymakers shape the dominant norm or rule of societies, like powerful actors in the international system, individual citizens, like non-prominent actors, may understand it differently and contest the dominant norm when they find it harmful. This process might shape and reshape both social rules and conduct of the actors. Thus, the central question of this study is as follows: ***Under which conditions do powerless individual actors' contestation of harmful dominant norms cause the emergence of new norms which result in changes in states' behavior.***
It is important to study state behavior from this perspective because due to the main claim of constructivists it is a real bottom-up approach which examines the mutual constitution of agent-structure. Figure.2. provides a general overview and a summary of the whole norm study in the constructivist school of thought. The aim of this figure is to help better visualize where the current study tries to contribute to the broader literature.

Having the general overview of norm study literature, Table 3. shows the literature of norm emergence due to actors' contestation and the area in which the study aims to contribute.

Expected Contributions

This study contributes theoretically to the existing literature in several areas as discussed below:

The theoretical model which is built in this study not only is able to explain the existing theories, but it also provides a new insight into the phenomenon of interest by developing existing theories. Prior constructivists' research has shown that norm emergence as a result of

norm contestation of powerful actors and powerless actors is at the state level. This research advances existing theory on norm emergence by both introducing a new type of actor at the non-state actors' level which result in norm emergence and by demonstrating the conditions under which contestation of non-state actors can results in new norm. Thus, this research provides a unique theoretical contribution to constructivist norm theory by advancing our understanding of the process by which individuals within a community, a group of actors which is generally ignored by other IR scholars, causes the emergence of new norms that affect state behavior.

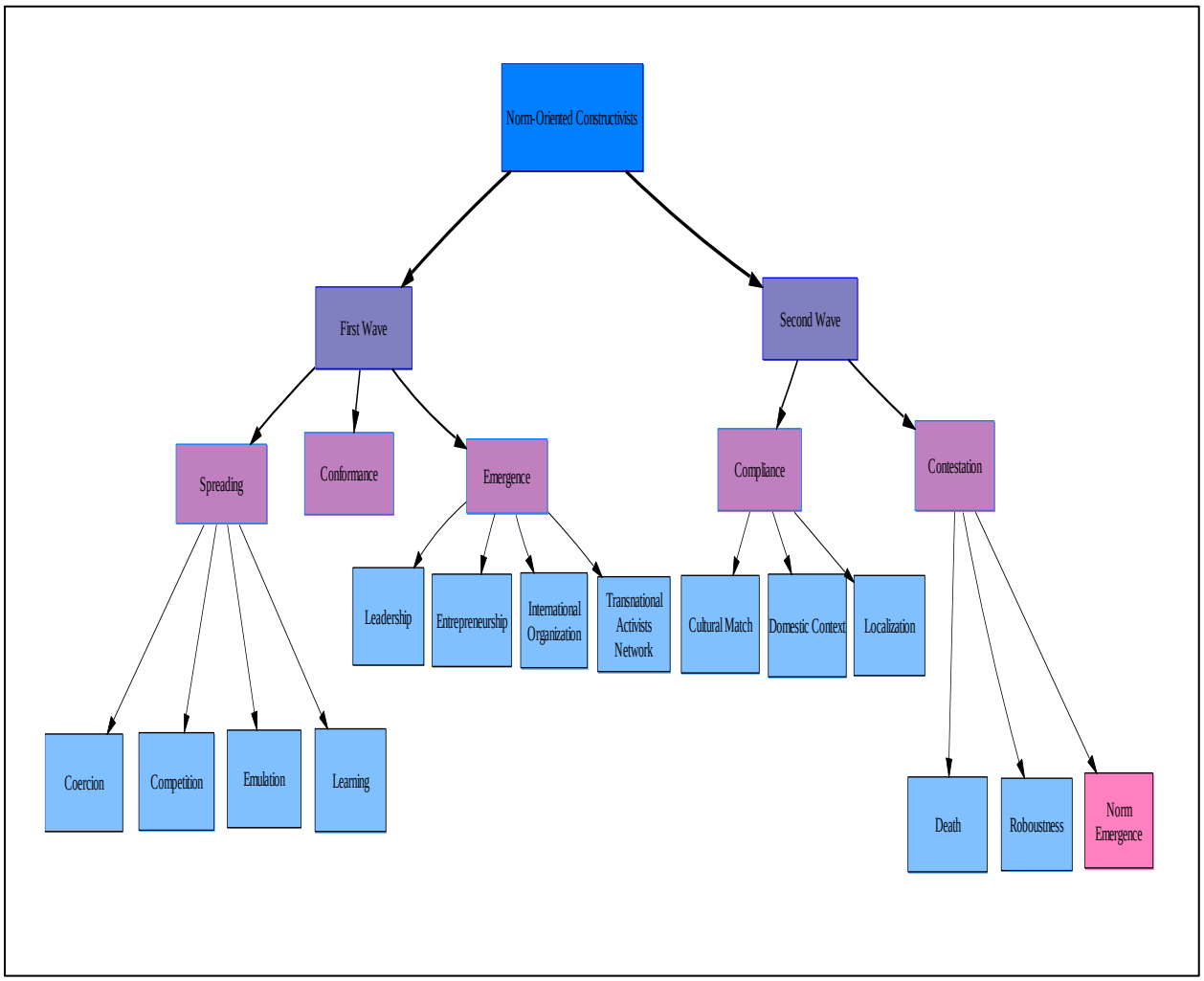

Figure 2. General Overview of the Constructivist' Norm Study Literature

Table 3. Table of Contribution

Actors Level Approach	**Norm Emergence**	
	Powerful Actors	Powerless Actors
International Level	Sandholtz (2007); (Johansson-Nogués et al., 2020)	Acharya (2011); (Wunderlich, 2020)
Domestic Level	Barnes (2016); Sikkink (2013)	This study's contribution lies in this section

Indeed, this research introduces two ideas: first, that norm violators can have a positive impact and feeling on other members of society. While the literature mainly considers negative feelings toward norm violators, the model developed here facilitates exploration of the conditions in which that violation works as a motivator for others to violate the norm and pursue a goal of abolishing it. Second, punishment, rather being a prohibitor, according to the literature, can trigger more norm violation which is also another theoretical contribution in the field of norm study. There are cases in which a government applied an unjustified punishment, or the punishments were too severe according to its citizens, In those cases government punishment may make people angry. Angriness increases risk taking and may exceed the fear of punishment at some point. In such instances rather than punishment being a prohibitor, it becomes a facilitator.

Moreover, this study brings much-needed attention to cross-cultural norm emergence. While literature mainly focuses on the democratic culture and actors, the scenarios in this study compare two different democratic and loose cultures with non-democratic and tight societies, as shown in Table 4. This study focuses on the two areas: societies which are democratic and loose and the other end of the spectrum, non-democratic and tight societies.

On the other hand, society's culture plays a crucial role in the structural factors of norm emergence. There is a difference between democratic and non-democratic societies. There are also differences in loose versus tight societies. Gelfand, Nishii, and Raver (2006) argue that this tight versus loose culture affects the process of socialization which is the fundamental factor in the process of norm emergence. Socialization is a complex process and has been studied by other scholars in the field. For the purpose of this study I only provide a general definition of socialization:

"Socialization is a complex process of learning and acquiring a norm by individuals that can significantly affect individuals' belief, perceptions, and behaviors (Clausen, 1968; Glasberg & Shannon, 2010; Macionis, 2013)."

Table 4. Summary of Cultural Areas of Interest

Society's Culture	Loose	Tight
Democratic	This study's area of interest	
Non-Democratic		This study's area of interest

Arnett (1995) defined and differentiated tight and loose societies in three ways: sanctioning by government, sanctioning by peers, and educational resources. In other words, in tight societies there exist higher peer-pressure and government pressure in comparison with loose societies while there is less educational opportunity. As a result, socialization is narrow in tight societies and is broad in loose societies. These three main factors which separated tight and loose cultures from each other can be explained based on the three major institutions in societies: family, media, and judicial system.

I. Family and teachers in tight societies invite children to be more rule obedient and there exists stricter monitoring of children's behavior (Holloway, 1999) which obviously affects socialization processes and, as a result, individuals' feeling of accountability. People in those societies bind themselves more to the norm and rules. Hence, peer-pressure is higher in tight societies not only in the way individuals feel the pressure of their peers but indeed, they put more pressure on norm violators (Rucker, Polifroni, Tetlock, & Scott, 2004; Tetlock, 2002)

II. Media is another institution that narrows socialization in tight societies. By restricting and regulating its content, social media causes narrow socialization (Sussman & Karlekar, 2002), In loose societies, the media's content is more diverse and open. In addition, media are less prone to regulation, control, and political pressure as to whether their content is acceptable (Sussman & Karlekar, 2002). As a result, one of two major sources of education in tight societies is much more restricted.

III. Criminal justice systems play a key role in socialization. Tight societies are prone to sanction violators more often and with restrictive tools. In comparison with loose societies, sanctioning through criminal justice institutions is more restrictive in tight

societies, for example the death penalty for drug offenses in Singapore (Amnesty International, 2002, 2004). Thus, in tight societies people expect stronger punishment. In short, we can say that tight society has a narrow socialization due to limited educational resources and more often and stronger sanctioning. Figure 3. summarizes these claims.

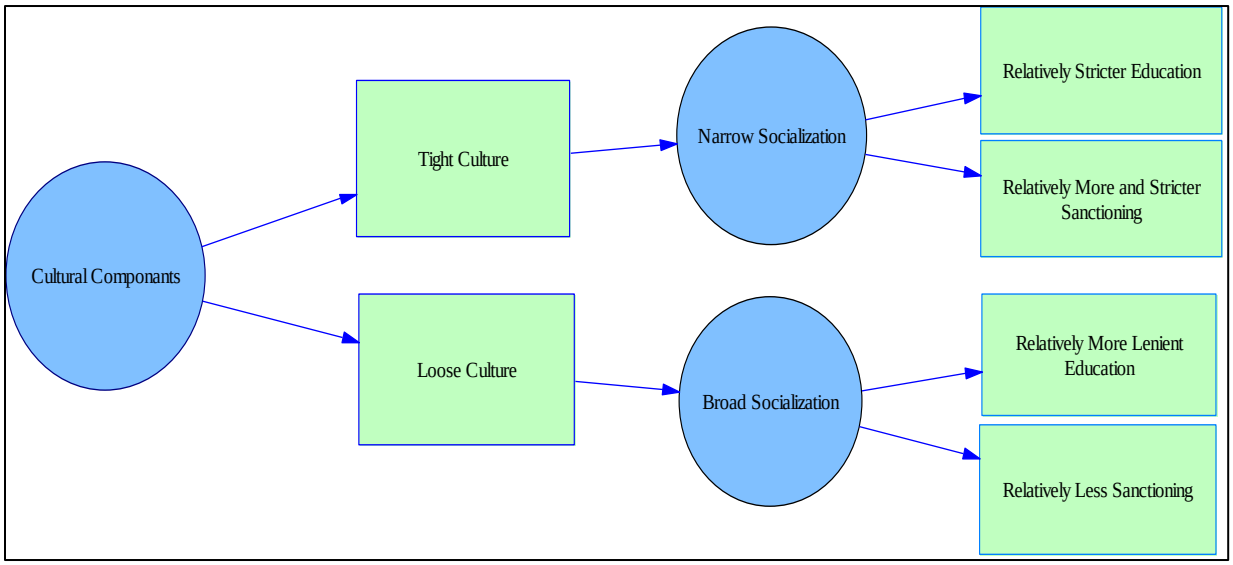

Figure 3. Summary of Cultural Tightness-Looseness

As discussed earlier, these factors, which have their roots in the culture of a society, play an important role in the emergence of a contesting norm. In this research I examine that while the relative power of contesters is equal in both cultures, different structural factors might be needed to have a new norm emerge.

Conclusion

Constructivists used to consider no role for actors and studied norm through the structure, however, some empirical studies challenged that view and encouraged constructivists to consider agency for norm takers. However, for a long time afterwards, constructivists believed that only

powerful actors could challenge and change an existing norm. But a comprehensive literature review reveals that in contrast to the dominant view in the field this is not always the case. And many more recent studies of powerless states' norm breaking at the international level proves that norm contesters' relative power is not the only factor which affects the decay or change of an existing norm. Rather, there exist other structural factors which play an important role in this process. However, due to the dominant belief in the field, there is less attention to those factors and there is a need for several studies and much more attention. This study is an attempt to address this existing open question in the field and determine the suitable conditions and factors which are needed for a new norm to emerge across two different cultures. To address this question, I will use modeling and simulation approaches. I will discuss that method in detail in the following chapter.

RESEARCH METHODS

Introduction

The Modeling and Simulation (M&S) approach is used to address the research question; ***Under which conditions do powerless individual actors' contestation of harmful dominant norms cause the emergence of new norms which result in changes in states' behavior.*** This section begins with a broad overview of the potential value of a modeling and simulation approach, and then discusses the specific M&S paradigm used to address that question—theory building paradigm. This paradigm is a multi-step process that I will explain in detail. It is composed of building a conceptual model, causal loop analysis, simulation model, and, finally, analyzing the result to generate a new theory and new insight which contribute to the field. I close the chapter with a brief conclusion.

Modeling and Simulation in International Studies (IS)

M&S is a field or subfield which has several important contributions within social science. It is a branch of computer science and engineering, but in the recent decades after it proved that it could be a useful approach in other fields (Iannaccone & Makowsky, 2007; Squazzoni, 2012), social scientists have increasingly turned to uses of computational modeling including agent-based modeling, system dynamic modeling, geographic information systems, and network analysis to address open questions in the field.

IS scholars increasingly use computational M&S because of the utility of these models for depicting complex systems and situations with a broad range of possible outcomes which makes it hard for policy makers to quickly consider them all at once. Thus, M&S is needed to overcome these complexities. There is no definite agreement between scholars about what

complexity is, but they all agree that when there is not a linear relationship between cause and effect, it causes complexity. Because of this nonlinear relationship, individuals are not able to identify or visualize all possible outcomes, or even the probability of particular outcomes (Poteete, Janssen, & Ostrom, 2010). In addition, one of the very important confusions one experiences in IS is how they should treat some feature of the world politics, such as path dependence or a transnational network, theoretically based on the traditional levels of analysis. Waltz (1959) discussed that there exist three levels of analysis: individual, state, and international system and he neglects the importance of a transnational network in world politics. M&S can also be used for experimentation when we know that a real experiment is not possible. For example, I am interested in the conditions under which norm contestation results in emergence of a new norm. I am not able to conduct a real experiment and no amount of interviewing, statistical analysis, or case studies will allow me to understand that. The simulation runs create data by running different scenarios in a simulated world rather in the real world. M&S has several paradigms among which I use primarily an inductive theory building paradigm in this project.

Theory Building Paradigm

Theory building paradigm is a multistep process. Figure 4. depicts the general overview of this dynamic process and, in what follows, I discuss each step of the process in detail.

The process begins when a scholar comes up with the research question thorough literature review in the domain of interest. This is followed by constructing dynamic hypotheses or a conceptual model, which might later be changed. In the next step, researchers use causal loop diagrams (CLD) to depict the conceptual model and use it to build a simulation model. The

CLD might be adjusted and modified through this part of the process which would modify the conceptual model later.

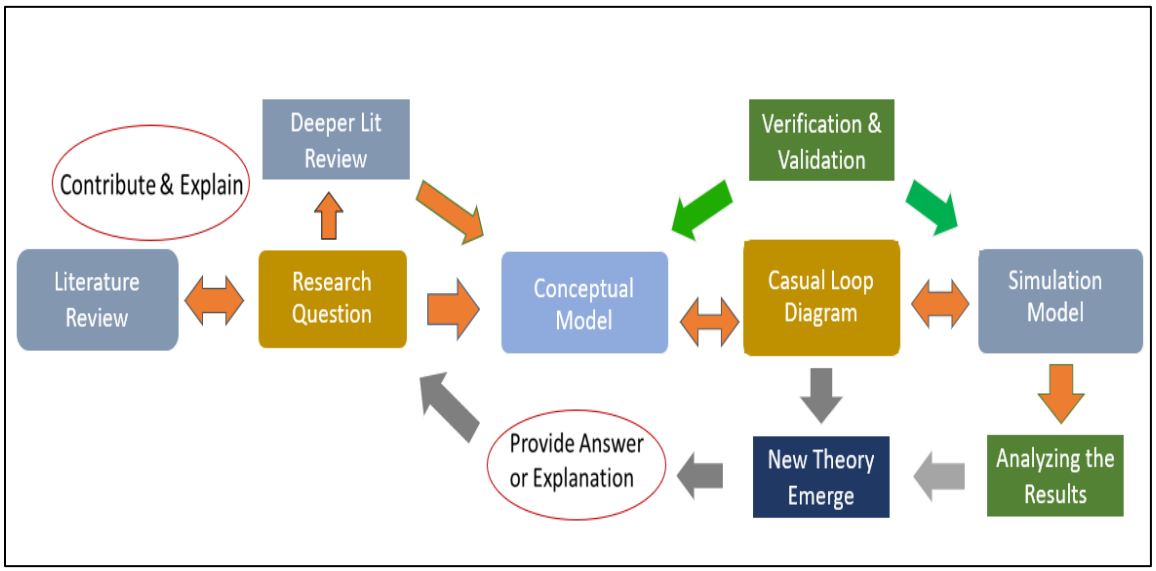

Figure 4. General Overview of Modelling and Simulation's Theory Building Paradigm

After having a simulation model, we need to validate the model's structure and behavior. It is important to mention that the CLD's analysis results must be the same as the simulation model results and then we can say the conceptual model and the simulation model are consistent. Finally, we need to determine a combination of parameter values that provide an answer for the research question which contribute to and explain the literature. The next section will apply these steps in the context of my research.

Conceptual Model/Dynamic Hypothesis

After coming up with the research question, I did a comprehensive literature review of all dominant and major norm study approaches to find out which approach and theory is most appropriate to address the research question and to build a conceptual model. I considered the

three main existing theories in the literature of norm study. These are socialized actor theory, cost-benefit theory, and social identity theory. Each are described below.

Socialized Actor Theory

Socialized actor theory, also known as structural functionalism, has mainly been used in sociology, first developed by Parsons, (1951). He was inspired by Durkheim and his idea that "Social Facts are things" (Durkheim, 1964, 1982). For Durkheim social fact is objective and reality should be treated as a thing. In other words, social structure creates a fixed objective which exists permanently. It is a constant standard, usable for the observer, and there is no room for subjective interpretation or personal observation. It is independent of individual's will and preference, and it holds a whole society together. It is external to any given individual. For Parsons, phenomena are known by their function and inherent properties and not as an idea of the mind. Social fact constrains/governs behavior and the norm is one kind of social fact. He defines it as "…a thing that many people do very similarly because the socialized community that they belong to has influenced them to do these things or a concrete idea that affected a person's everyday life" (Parsons, 1951).

Parsons, who was inspired by both Durkheim and Webber, initially considered a role for individuals in his theory of socialized actor. Individuals in this theory are able to choose among alternatives. *A common value system* is the thing which brought social order and stability into society, and this common value system is embodied in norms. Social stability occurs when society follows a common value system or norms. The value system constructs the individual's identity and consequently, the individual willingly obeys the common value system. Therefore, a norm is something stable and exogenous and conformity to a norm is something that happens through socialization and internalization. Based on this theory, socialization, which happens

during childhood, causes norms to be internalized. People behave and obey the norm as it is a normative structure of the society.

Cost-Benefit Theory

Cost-benefit theory has been mostly used among rationalist-economists and emphasizes the role of individuals' decision making. Here a norm refers to individual rational choice evolution through a series of game interactions to maximize the utility. Neumann and Morgenstern (1944) define an individual as a rational actor who tries to maximize their utility. A payoff-maximizing strategy and external sanctioning motivate conformity. Homans (1958) and Blau (1964) developed the social exchange theory to study norms through social interaction, and later (Coleman, 1994) expanded this approach. This way of seeing social phenomenon led to the study of norms under the category of "individualism." Norm study is based on individual decision making and rationality.

Social Identity Theory

Social identity theory (SIT) explains how individuals' norms and behaviors are shaped. To SIT scholars, social norm/identity should be considered a key motivational factor to explain individuals' behavior. This approach is mostly used among social psychologists and anthropologists. From this perspective, there is an inevitable connection between members' social identity and group behavior. The theory explains how group norms can change individuals' norms and behavior. SIT is relevant for this study since it shows how a new norm forms at the individual level and later spreads among other group members with the same interests potentially evolving, strengthening, or weakening the dominant norm (See Figure 4. from above).

Turner, Hogg, Oakes, Reicher, and Wetherell (1987) later clarified the difference between personal and social identity in their "self-categorization theory." They believe joining a group makes individuals perceive the similarity and solidarity within the group and themselves as a typical group member. In other words, people perceived themselves primarily based on their reference/relevant groups rather than upon their personal identity. Based on this theory, whenever social identity becomes salient, the cognitive mechanism of in-group categorization activates scripts or schemata. As a result, group behavior will shape or reshape. This stereotype activation makes individuals depersonalize themselves and, instead of perceiving themselves as a unique person, they perceive themselves within the group's characteristics, values, interests, and goals. In this theory, people's motivation to conform to group norms comes from their desire to validate their identity as group-members.

After considering these three separate theories, I determined that social identity theory is the best fit to answer this study's question.

Why Social Identity Theory?

To answer why I think this theory is the most appropriate one to proceed with, I need to discuss one very important and ongoing debate among scholars: the structure-agency[3] problem.

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[3] Structure is a pattern of law which influences or limits the available choices. Agency is a capacity by which actors can, independent of that existing structure, make choices Barker, C. (2003). Cultural studies: Theory and practice, Sage.

Agency role has its root in philosophical concept of subjectivity. In other words, norm takers are subjects who have their own experiences and consciousness Honderich, T. (2005). The Oxford companion to philosophy, OUP Oxford.

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For a long time, scholars including first wave of norm-oriented constructivists, believed that there is a structure that affects agents' behavior and decision making. In other words, the structure shapes or forms the interaction between actors. This group follows Durkheim and his philosophy. However, Weber's ideas drastically challenged this dominant belief in the field and led to the introduction of subjectivity for agents. In this sense actors' interactions reshape the structure. These two statements led some scholars to come up with the conclusion that the agent and structure are interdependent.

The structure-agency issue led norm study scholars to study human behavior based on different logics. Socialized actors' theory, following structuralism, believes that structure shapes actors' values and behavior; actors have no subjectivity to decide and act independently. This is what March and Olsen (1998) called "logic of appropriateness," which means actors can never significantly remove themselves form their social structure to make an independent judgment. They just behave based on what it is appropriate to do in a specific situation. This means individuals do not have agency and the main player is the structure. Once a norm is accepted it is almost impossible to change it until the whole structure changes. As I discussed earlier in detail, as well as in the literature review, the initial wave of norm-oriented constructivists falls into this category of scholars; they do not consider real agency for actors.

At the other end of the spectrum are cost-benefit theorists, which are also called the individualistic group. They believe in the logic of consequence (March & Olsen, 1998). These theorists believe actors can reason about the possible behaviors and decide how to behave. Furthermore, they believe actors do what will maximize utility. The cost-benefit model suffers from not only several sanctioning issues, but indeed, from disregarding individuals' values and expectations as a result of emphasizing mainly autonomous decision making (Axelrod, 1986;

Scott, 1971). To address this body of shortcomings, Bicchieri (2006) suggested that individuals' decisions are influenced by social preference and normative structure. In this perspective, social situations activate a script for actors in the game that iterates that general script and leads to the emergence of the norm. However, framing a social situation is still a matter of debate.

But social identity theory is an approach which enables us to study norm emergence mechanisms as agent and structure shape and reshape each other. It provides agency for actors, (socialized actor's theory does not) when they are aware of their personal identity and interests. That identity is shaped and reshaped through interactions within their group. On the other hand, the group itself, as an actor, can later expand to other members of the society and change the dominant structure. This is something the cost-benefit model cannot explain. This fits my study of norm emergence through individuals' norm contestation. Thus, for the purpose of this study, social identity theory fits the best.

It is necessary to mention that each theory and paradigm has its own advantages and limitations; social identity theory is not an exception. For example, it is hard to predict how people will behave when their two different roles or identities are at cross-purposes such as when a woman's gender identity contradicts her religious identity. Each of the above theories is appropriate for different questions and to answer this study question, knowing all advantages and limitations, I found SIT the most appropriate. As Geddes (2003) states, "Decisions about what approach to take to particular research questions should be based on assessments of what kind of leverage different approaches offer for answering the question of interest."

After assessing and evaluating which theory is the best fit to my research question, I built the conceptual model. A dynamic hypothesis or conceptual model is used to establish a consistent logic about a norm emergence phenomenon within huge bodies of literature, its

dynamic relations, and its interpretations. These relationships and their interpretations are shown in a list of 42 claims and assumption statements in the conceptual model chapter. Claims are statements which are supported by at least one citation within the norm emergence literature explicitly. Logical extensions of claims are called assumptions. Rather than developing the entire model here, the purpose in this chapter is to discuss the methods used.

Causal Loop Diagrams

Dynamic hypothesises are depicted by using the CLD to capture the logical relationships between norm emergence variables as described in or inferred from the literature. The CLD depicts reinforcing loops and balancing loops. Reinforcing and balancing loops respectively cause positive and negative effects. Each loop starts at a variable and moves forward in the direction which leads back to the starting variable. An example of a CLD is illustrated below:

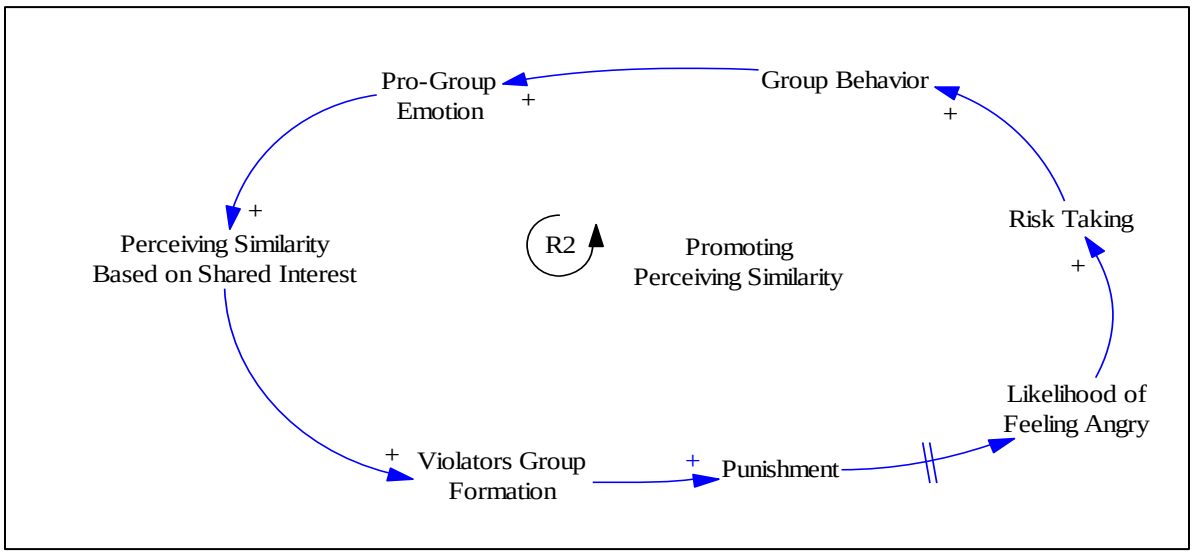

Figure 5. Promoting Perceiving Similarity, R2

In the Figure 5., Promoting Perceiving Similarity, R2 (Campos-Vazquez & Cuilty, 2014; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner, Reynolds, Haslam, & Veenstra, 2006; Tversky & Kahneman, 1992; Villatoro, Sen, & Sabater-Mir, 2010; Yang, 2000) is illustrated**.** Perception of similarity resulted in the violators group formation, which in turn triggers government's punishment. Punishment increases feelings of angriness. As a result, people take more risk and that increases group behavior. More group behavior increases the pro-group emotion which later strengthens the perception of similarity.

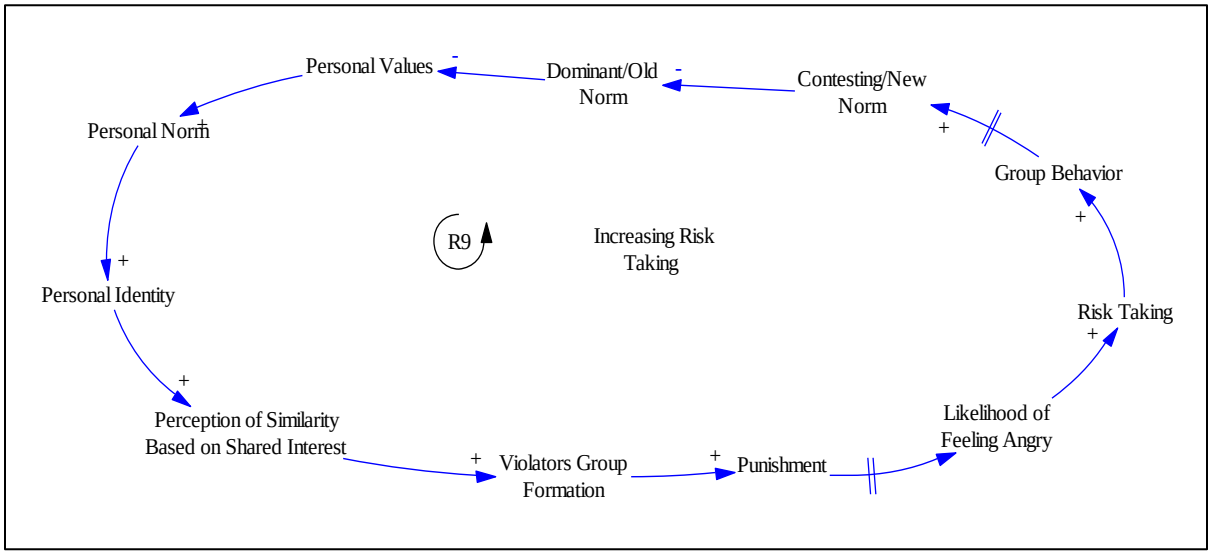

Figure 6. Increasing Risk Taking, R9

In the more complex example shown in Figure 6., Increasing Risk Taking, R9 (Campos-Vazquez & Cuilty, 2014; Dechesne, Dignum, & Tan, 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal values shape personal norms and personal norms shape personal identity. The stronger one's personal identity, the more an individual perceives the similarity and is more likely to join the

violators group which in turn triggers government's punishment. Punishment increases feeling of angriness. As a result, people take more risk and that increases group behaviour. The more group behaviour, the greater number of people adopt the new norm, which later decreases the old norm followers and strengthen the personal values.

Simulation Model

I use system dynamic modelling to implement the conceptual model. The models for this research are built in Vensim. One important question which is worthwhile to discuss before explaining the simulation model is why this study needs a simulation model. If the CLD provides insights by itself, then what does one gain from the simulation model for a theory-driven model that one cannot get out of the causal loop diagrams alone? Scholars have different views on this question and consider different value for either qualitative or quantitative models.

The need for only the qualitative model or both qualitative and quantitative model is a debate which can be traced back at least to a claim by Wolstenholme (1985). He inferred those dynamics are possible and even preferable when building a quantitative model is very difficult or costly from a qualitative map. Later, Coyle (2000) went even further and challenged the traditional belief in the need for the quantitative model in system dynamics. He discussed some pure qualitative models that led to policy making.

Qualitative models might provide some insight for researchers, but they cannot capture the complex real-world effects such as *accumulation/delay, feedback, and non-linearity.* In addition, simulation models provide modelers with higher "levels of evidence" to test the model. Scholars believe that any model needs strong behavioral and structural evidence to be tested (Homer, 2014). Subject-matter experts provide models with structural evidence while the only

way to provide behavioral evidence is to compare the model output with existing data or records. To have a strong support for both structure and behavior one needs the simulation model.

Finally, CLD might provide us with dynamic insight about the system. However, in many cases, including this study, it does not provide modelers with enough details. The CLD for this study shows that to have a new contesting norm emerge, a society needs to perceive the similarity with norm violators. Meanwhile, results from a simulation model inform me about the needed percentage of similarity required for a new norm to emerge in a society under specific assumptions about the operation of a range of other social factors. In other words, CLD gives us general insight into the question, but a simulation model provides us with more details about that same information.

Knowing the importance of a simulation model alongside a qualitative model, I choose the system dynamic approach to build the simulation model. There are two main reasons I selected this type of model to implement the conceptual model over other modelling approaches. First, as I discussed in the literature review, scholars believe that under suitable structural conditions even powerless actors can cause the emergence of a new norm. Investigating those structural factors is the main goal of this study. System dynamics modeling is an approach which enables me to understand those structures and their dynamic process. It allows me to investigate which structural factors are important or crucial and how those factors play roles in the dynamic process. However, I acknowledge that a system dynamics model is less promising when it comes to investigating people's daily behavior under a contesting environment.

Second, System Dynamics (SD) modeling can provide the explanation for the cause of behavior. In other words, scholars in the field of norm and behavioral studies mostly focus on norms and changing individuals' behavior by collecting data and doing real world experiments.

However, SD modeling enables readers to understand the cause of that behavior by exploring how different processes need to come together during a dynamic process to cause the overall pattern of behavior.

System Dynamics Modeling

SD is a computer simulation approach which enables modelers to study complex and dynamic physical and social problems or behaviors, as well as analyze and design related policy (Forrester, 1958). In this approach, system structure, or any dynamic problem, is shown by stock, flow, and auxiliary variables.

Stocks/State Variables

Variables which take time to accumulate stuff are considered and modeled as stock. Stocks may either grow or shrink. Stocks are very important in SD because they play the role as a memory of the system. Stocks remember the effect of the stuff that accumulates in them and that provide memory for the system. Indeed, stocks give the system inertia. As stocks grow and get bigger, this pushes the system to change and move. Moreover, stocks create time delays in the system. Or, in other words, time lags between when parts of the system are changed and when we feel the impact of that change. Thus, they play a crucial role in these models of the dynamic system. Finally, stocks are the basis for decision and action. In other words, to decide and design a new policy we need to know the status of each stock.

It is important to note that stocks could be either conserved or not conserved. Conserved, which are also considered material stuff, are those stuffs or stocks which cannot be created or destroyed in the system such as people, a car, or a project. In contrast is non-conserved stuff, also considered information, which can be created and destroyed in the system. Examples of non-conserved stocks are feelings, price, and stress. These try to reach a target value.

Flows/Rates

While stocks are accumulations of stuff, a SD model needs another element to show the movement of those items among stocks or among stocks and the environment. Flows are components which show the movement of stuff in or out of stocks over time or, in other words, changes in stock over time.

Auxiliary Variables

These variables represent non-linearity or graphical functions. They usually are a function of several other variables which could be constant, another auxiliary, and/or a stock. In Chapter 5, I explain the SD model in detail (from David Ford's notes on System Dynamics Summer School 2020). Figure 7. shows the simple stocks, flow, and auxiliary variables.

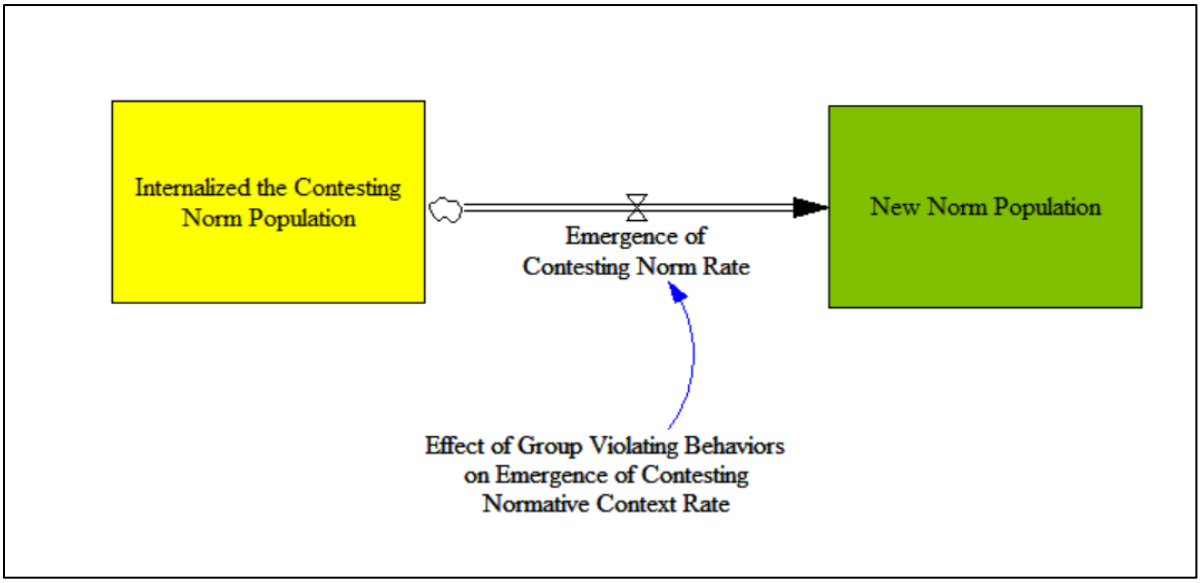

Figure 7. A Simple Stock and Flow Connection

The above image might depict a stock and flow connection. However, it is not a system dynamic model yet. Any system dynamic model has feedback, otherwise it is not SD. Feedback loops enable us to understand and explain the design of the system and thus manage the system with which we are working (from David Ford's notes on System Dynamics Summer School 2020). Earlier, I discussed two casual loop diagrams. The SD simulation model has the same loops as CLD which is one path to structural validation. In Figure 8. I provide one of the simulation model feedback loops. Scholars believe that the feedback loops are "building blocks for articulating the dynamics of these models and their interactions can represent and explain system behavior" (Choucri et al., 2007).

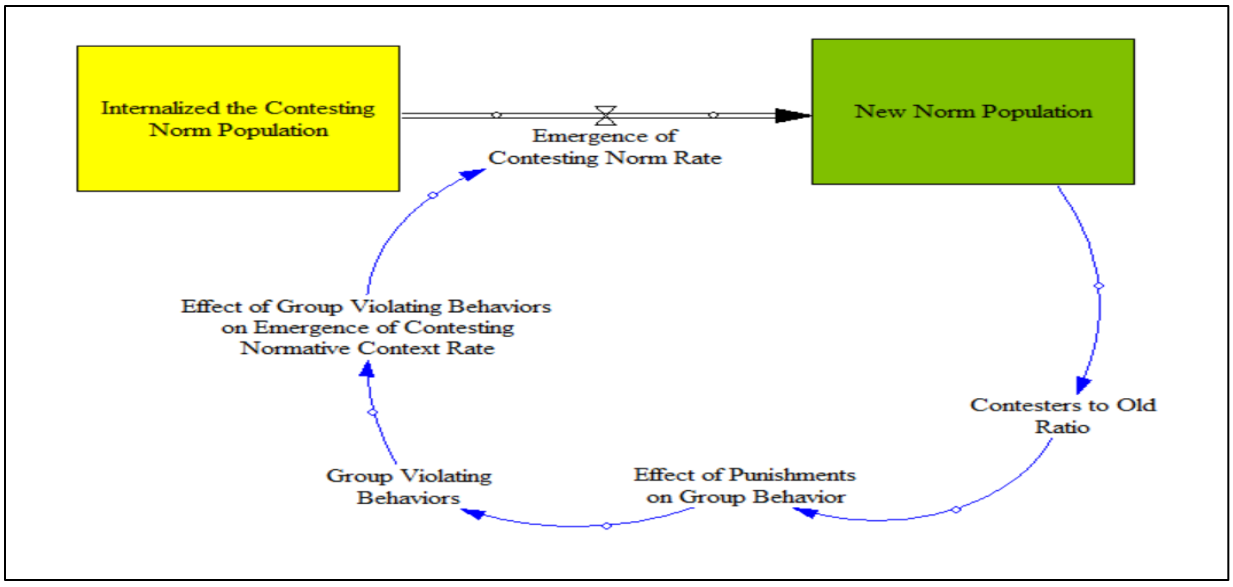

Figure 8. A Simple Stock and Flow Model

Model Validation & Verification

Validation in SD modeling means transferring confidence to others who were not involved in building the model (Senge & Forrester, 1980). Model builders accumulate

confidence about model usefulness while building the model and observing expected behavior. However, model validation is not limited to its constructors. It can be extended to any person who is not involved in building that model to gain their confidence. Senge and Forrester (1980) discuss that to gain that common confidence about model usefulness in SD, the models' structure and behavior need to be tested. They explain several different tests and emphasize that based on the model's purpose, model builders must pick among the available tests to build the soundness of their model. However, one must accept the impossibility of absolute validity or confidence (Sterman, 2002). Similarly, prior to conducting experiments, I develop confidence that the simulation model is useful for its intended purpose through a process of validation. I test both structure and behavior of the system which will be discussed in Chapter 5.

Analyzing the Results and Answer to the Research Question

After gaining confidence about the model usefulness, one needs to conduct experiments using a combination of parameter values to find the associated emergent equilibrium and then analyze those datasets to generate insight into the system. I define the parameter samples for simulation experiments based on the results of a sensitivity analysis test. That test enables me to recognize which parameters are the key ones. After having key parameters and allocating their initial values, the simulation scenario is ready to be run and generate insight. Finally, the insight that is gained through simulation results provides an answer to the research question, and later explains and contributes to the literature.

Conclusion

In this chapter, I discuss the importance of using modeling and simulation and its ability to generate data through a simulated world in cases like this study where there is no possibility of conducting real-world experiments and data collection. Then I discussed one specific modeling

and simulation paradigm which is used to conduct this research: the theory building paradigm. I explained this paradigm in several steps: after coming up with the research question one builds a conceptual model. I will discuss the conceptual model in detail in the following chapter.

CONCEPTUAL MODEL

Introduction

In the previous chapter, I noted that the first step in building a theoretical model is coming up with a research question, then building a conceptual model/dynamic hypothesis based on the existing literature. In this chapter, I explain the steps which I took to build a conceptual model. I first studied the three main norm-study's existing theories in the literature, and based on being the most appropriate to address this study's research question, I selected social identity theory and built my conceptual model. Finally, I turned my conceptual model into a CLD which provides me with the opportunity to implement my model in the computational modeling setting.

What is Social Identity Theory?

Social identity theory (SIT) explains how individuals' norms and behaviors are shaped through their interactions. To SIT scholars, social norms[4] and, consequently, social identity[5] should be considered a key motivational factor to explain individuals' behavior. This approach is mostly used among social psychologists and anthropologists. From this perspective, there is an inevitable connection between members' social identity and group behavior. Thus, it shows how group norms changed individuals' norms and behavior. SIT fits this study because it shows the process of how a new norm spreads among other group members with same interests and then has the potential to eventually evolve, strengthen, and weaken the dominant norm.

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[4] Social norms are informal rules that groups adopt to group members' behavior Feldman, D. C. (1984). "The development and enforcement of group norms." Academy of management review **9**(1): 47-53.

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[5] Social identity is a part of an individual's self-concept which derives from one's knowledge of one's membership of a social group together with the value and emotional significance attached to that membership; according to Turner, group identity is basically a cognitive mechanism whose adaptive function is to make "group behavior" possible Tajfel, H. (1981). Human groups and social categories: Studies in social psychology, Cup Archive.

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Turner, Hogg, Oakes, Reicher, and Wetherell (1987) proposed the "self-categorization theory" which is a foundation on which to build a conceptual model. Based on this theory, individuals have personal norms that shape their identity and interests. Individuals perceive their similarity[6] with others based on those interests. This perception of similarity is a key element in shaping a new category.[7] By joining the category, group members learn and assign a group norm. Authors believe joining a group makes individuals perceive the similarity and solidarity within the group and view themselves as a typical group member. In other words, people perceive themselves primarily based on their reference group and its norm and goals. Shared goals provide trust[8] and cooperation among group members. If a person perceives that their goal is different from the group, they distrust the group norm and perceive dissimilarity with other members. As a result, they begin making dissimilarity focused comparisons[9] and become detached from the group. Based on this theory, group norm activation makes individuals depersonalize[10] and self-stereotype[11] which leads to internalization[12] of the group norm. Those

[6] Similarity is perceived as a factor of interest. And different things might define interests such as history, gender, or many other factors Turner, J. C. and K. J. Reynolds (2011). "Self-categorization theory." Handbook of theories in social psychology **2**(1): 399-417.

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[7] For this study we use category and group interchangeably.

[8] It includes both emotional and cognitive dimensions and functions as a deep assumption underwriting social order Dirks, K. T. and D. L. Ferrin (2001). "The role of trust in organizational settings." Organization science **12**(4): 450-467.

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[9] Social judgment is based on the comparison mechanism; in other words, we compare targets with comparison standards on the dimension of interests. Mussweiler, T. (2003). "Comparison processes in social judgment: mechanisms and consequences." Psychological review **110**(3): 472.

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[10] A cognitive definition of self from unique attribution to shared category membership and associated stereotypes, cognitive redefinition of self Turner, J. C. (1984). "Social identification and psychological group formation." The social dimension: European developments in social psychology **2**: 518-538.

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[11] It happens when people see themselves more alike in a category's stereotypes and clichés ibid.

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[12] People assign norms and attributes of the category to themselves; when norm is given for granted Turner, J. C. and K. J. Reynolds (2011). "Self-categorization theory." Handbook of theories in social psychology **2**(1): 399-417.

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who internalize the norm begin to behave based on the norm. They promote the norm and, after a while, the norm will become normative. This is a concise explanation of a self-categorization theory which, as I mentioned earlier, is foundational for my conceptual model. It should be noted that this theory mainly explains emergence of a group/social norm which does not contest with the dominant norm; this is not the case for this study. In SIT, group members begin to behave based upon the norm once they internalize that norm. This research is focused on new norms that contest the existing ones. In this research, group members who internalize these emerging norms risk punishment if they decide to behave based on the new norm, since their behavior for excepting norms goes against laws (Posner & Rasmusen, 1999; Villatoro, 2010). To capture that risk-taking, I create a distinct variable of risk-taking portion in the conceptual model.

Based on the existing literature of collective action, risk taking depends on the perceived cost and benefit. In other words, individuals in a society are rational actors and take risks based on a cost-benefit calculation (Granovetter, 1987; Neumann & Morgenstern, 1944). For this study, costs that decrease risk taking are considered negative emotions[13] and benefit, which increase risk taking, is considered a positive emotion that might be experienced in the process of contesting an existing norm. Psychology literature is used to clarify how these two general groups of emotion are defined. Psychologists have argued that humans have five main basic emotions—fear, sadness, anger, joy, and disgust—which shape their behavior and risk-taking decision making. For this study, we define negative feeling as the sum of fear, which could be

[13] A momentarily good or bad state which arises based on the situations; the positive or negative feeling, which could be conscious or unconscious Schwarz, N. and G. L. Clore (1983). "Mood, misattribution, and judgments of well-being: informative and directive functions of affective states." Journal of personality and social psychology **45**(3): 513.

, Clore, G. L., et al. (2001). "Affect as information." Handbook of affect and social cognition: 121-144.

fear of losing a job, money, or being arrested, with a feeling of disgust because of being abandoned by peers. Positive feelings are the sum of anger because of unjustified government punishment with pro-category emotion. Pro-category emotion composes feelings of sadness of having shared grievances with violators and feelings of joy while violating norm and receiving admiration.[14] In my model, group members, after internalizing the group norm, take risks based on their cost and benefit calculation and behave against the dominant norm.

Now that I have described the theory, I will explain how I established a consistent logic about a norm emergence phenomenon within this body of literature to shape my dynamic hypothesis.

Dynamic Hypothesis

The main point of the dynamic hypothesis or conceptual model is to establish a consistent logic about a norm emergence within huge bodies of literature, its dynamic relations, and its interpretations. These relationships and their interpretations are shown in a list of 38 claims and assumption statements (see Table 5. & Table 6.). Claims are statements which are explicitly supported by at least one citation within the norm emergence literature. Logical extensions of claims are called assumptions.

Before explaining the CLD, it should be noted that all the variables in table 6 are endogenous variables, however, there are some exogenous variables in the system which needed to be explained. One of those variables is First Violation of dominant norm. Scholars believe that when people find some problem with the existing norm, especially when there is a problem that is not compatible with their values, they try to promote a norm which they believe is beneficial

[14] Individuals fulfill their interests like improving their statuses in the group or receiving more admiration and will take more risks. In other words, risk is a cultural value Forsyth, D. R. (1990). Group dynamics . California: Brooks, Cole Publishing Company.

for a society (Dechesne et al., 2011; Vickers, 1973). However, those people begin promoting their norm while using similar language to eventually change the old norm. In this study, people who find a problem with an existing norm begin violating that norm; I call that "First Violation." It is the intervening factor which initially triggers a society's attention and action.

Table 5. Model's Endogenous Claims and Assumptions

Model Variables	Claim/ Assumption	#	Description	References
Personal Values	Claim	1	Individuals' values have their roots in the societies' culture, religion, social media, rules, and normative structure	(Bicchieri, 2006; Parsons & Shils, 1951; Schwartz, 1992; Zaidise, 2004; Cline, 1975)
Personal Value	Assumption	2	Contesting norm affects personal Value.	Logical extension of claim #1
Personal Value	Assumption	3	Dominant norm affects personal value	Logical extension of claim #1
Personal Norm	Claim	4	Personal values shape personal norms; norm is a tool to achieve goals	(Dechesne, Dignum, & Tan, 2011; Vickers, 1973)
Pro- Group Emotion	Claim	5	Personal norms shape personal emotion	(Mercer, 2014)
Pro- Group Emotion	Claim	6	Violation of a norm causes pro-category emotion among those who have a shared feeling of grievance and indeed among those who see violators as brave and risk takers individuals and admire them	(Snow, Rochford Jr et al. 1986, Forsyth 1990, Snow and Benford 1992)

Table 5. Continued

Model Variables	Claim/ Assumption	#	Description	References
Pro- Group Emotion	Claim	7	Group violation causes pro-emotion among others	(Yang, 2000)
Personal Identity	Claim	8	Personal norm shapes personal identity	(Winston, 2018)
Violators Group Formation	Claim	9	Perception of similarity based on shared interest shapes a new group	(Granovetter, 1987)
Risk Taking	Claim	10	Anger increases risk taking	(Campos-Vazquez & Cuilty, 2014; Tversky & Kahneman, 1992)
Risk Taking	Claim	11	Pro-group emotion increases risk-taking	(Campos-Vazquez & Cuilty, 2014; Nguyen & Noussair, 2014)
Risk Taking	Claim	12	Fear decreases risk taking	(Wake, Wormwood, & Satpute, 2020)
Risk Taking	Assumption	13	Peer-pressure decreases risk taking	Logical extension of claim #12
Likelihood of Feeling Angry	Assumption	14	Punishment might cause anger among people who perceive the same grievances	Based on historical evidence
Feeling of Fear	Claim	15	Punishment causes fear as it challenges individuals' interest	(Granovetter, 1987; Posner & Rasmusen, 1999)

Table 5. Continued

Model Variables	Claim/ Assumption	#	Description	References
Peer-Pressure / feeling of disgust	Claim	16	Individuals feel in-group peer pressure to behave based on the group norm otherwise they will be perceived disgusting and abandoned by their peers	(Turner, 1991; Salimi, Frydenlund, Padilla, Haaland, & Wallevik, 2018)
Behavior	Claim	17	Normative context affects the personal behavior	(Mead, Rimal, Ferrence, & Cohen, 2014)
Peer-Pressure	Assumption	18	Dominant norm affects perception of peer pressure	Logical extension of claim # 17
Peer-Pressure	Assumption	19	New norm affects perception of peer pressure	Logical extension of claim # 17
Perceiving Similarity Based on Shared Interest	Claim	20	Personal identity shapes personal interests and their perception of similarity	(Snow & Benford, 1992; Snow et al., 1986)
Perceiving Similarity Based on Shared Interest	Assumption	21	The pro-group emotion makes others perceive the similarity with violators based on their shared interests	(Snow & Benford, 1992; Snow et al., 1986)
Likelihood of Defining Incompatible Goal	Claim	22	There is always a probability that individuals find their initial goals are not incompatible with a group norm	(Posten & Mussweiler, 2013)
Doing Dissimilarity Focused Compression	Claim	23	Distrust awakens the dissimilarity comparison	(Posten & Mussweiler, 2013)
Emergence of Distrust Toward Category Norm	Claim	24	Incompatible goals cause distrust	(Posten & Mussweiler, 2013)

Table 5. Continued

Model Variables	Claim/ Assumption	#	Description	References
Learn & Assign Norm of the Group	Claim	25	Each group has its own norm and by joining the distinct category, group members will learn about the norm and start assigning the group norm	(Turner, 1984; Turner et al, 1987)
Depersonalization	Claim	26	The more members assign the group norm, the more they depersonalize and self-stereotype	(Turner et al., 1987)
Internalization of the Norm	Claim	27	The more individuals self-stereotype, the more they internalize the norm	(Turner et al., 1987)
Group Behavior	Claim	28	Group members behave because of norm internalization	(Turner et al., 1987)
Emergence of New Norm	Claim	29	Group behavior will become normative after a while	(Turner et al, 1987)
Group Behavior	Claim	30	Punishment decreases the group violating behavior	(Posner & Rasmusen, 1999; Villatoro, 2010)
Group Behavior	Claim	31	Risk taking increases group members' riskier behavior or more violating behavior	(Forsyth, 1990)
Emergence of New Norm	Claim	32	legal norm's strength, weakens the contesting norm	(Deitelhoff & Zimmermann, 2019)
Dominant Norm/Legal Norm	Assumption	33	Contesting a norm weakens the legal norm (the population size of either contesting or legal norm balance each other)	Logical extension of claim # 32

Table 5. Continued

Model Variables	Claim/ Assumption	#	Description	References
Punishment	Assumption	34	Dominant norm population increases government punishment (government power is considered as a population who support them. Thus, when huge population follow and obey them government has more power to punish and vice versa.	Logical extension of claim # 32
Punishment	Assumption	35	New norm population increases government punishment (see assumption # 34)	Logical extension of claim # 32
Punishment	Assumption	36	Violators group population increases government punishment	Logical extension of claim # 32
Punishment	Assumption	37	Norms internalized and group population increases government punishment	Logical extension of claim # 32

Another exogenous variable is Extreme Behaviour which causes anti-category emotion and reduces the group violating behaviour. I summarize these variables in Table 6. In many historical and/or political events we witness that some violators exhibit extreme behavior, like set a fire on public transportation or vandalize public places. Those behaviours cause anti-category emotion which reduce group behaviour and indeed trigger prompt government punishment.

Table 6. Model's Exogenous Claims and Assumptions

Model Variables	Claim/ Assumption	#	Description	Reference
Pro-category Emotion	Assumption	38	Violation of a dominant norm triggers pro-category emotion	Based on historical evidence like Inqilab Girls
Extreme Behavior	Claim	39	It is always possible that members lose their awareness and show extreme behavior	(Forsyth, 1990b)
Punishment	Claim	40	Extreme behavior increases government punishment	(Marx, 1974)
Likelihood to Trigger Anti-category Norm Emotion	Claim	41	Extreme behavior causes negative emotions among members	(Forsyth, 1990a)
Group Violating Behavior	Claim	42	Anti-category emotion reduces group violating behavior	(Forsyth, 1990a; 1990b)

Causal-Loop Diagram

Dynamic hypothesises are depicted by using the CLD method to capture the logical relationships between norm emergence variables. The CLD shapes reinforcing loops (R1- R17) and balancing loops (B1-B11). Reinforcing and balancing loops respectively cause positive and negative effects. Each loop starts at a variable and moves forward in the direction which leads back to the starting variable. Figure 9. shows the cause-effect relationships between variables for norm emergence based on the social identity theory and the claims and assumptions table.

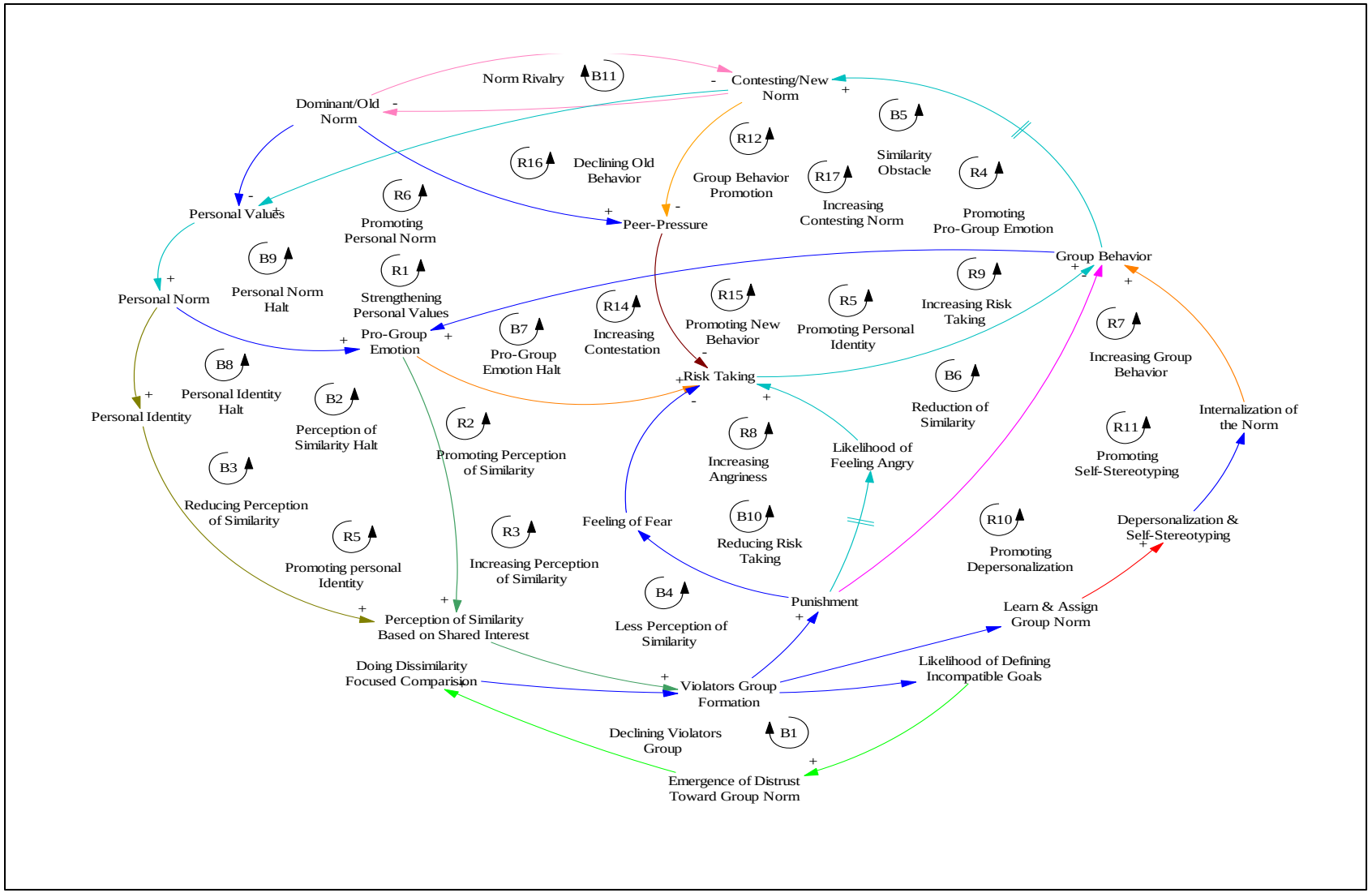

Figure 9. Causal Loop Diagram

Loops' Legend

Each of the causal loops below shows one portion of the original causal diagram which can be used both for the explanatory purposes and structural validation.[15]

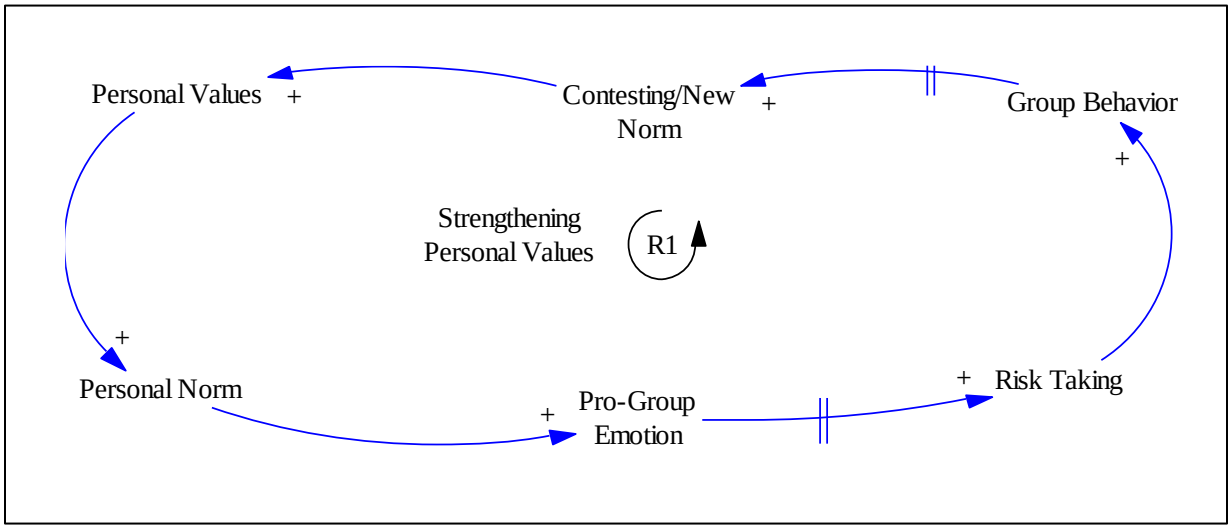

Figure 10. Strengthening Personal Values

Strengthening Personal values, R1(Dechesne et al., 2011; Forsyth, 1990; Mercer, 2014; Turner et al., 1987; Vickers, 1973). Personal values shape personal norms—the stronger the personal norm, the more individuals perceive the pro-group emotion. The more pro-group emotion resulted in more risk taking and, as a result, more group violating behavior. The more violators behave and practice the norm the greater number of people adopt the new norm and in consequence it strengthens the personal values.

[15] I will explain structural validation in detail in the simulation chapter.

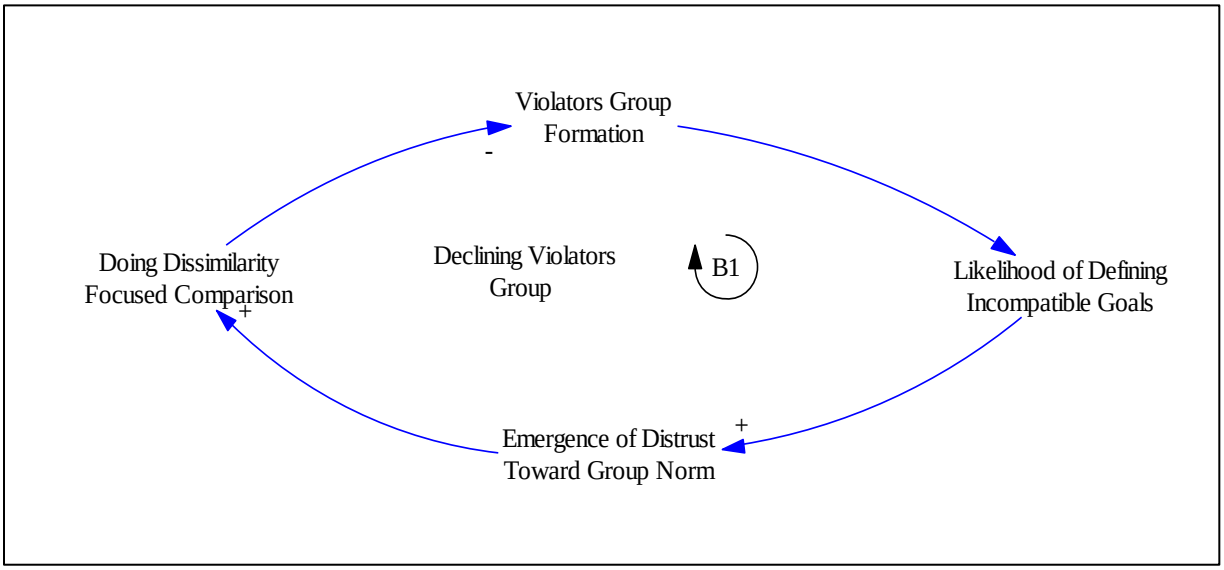

Figure 11. Declining Violators Group

Declining Violators Group, B1(Posten & Mussweiler, 2013). Violators might find that their goals differ from a violators group and that triggers distrust toward group goals and norms. More distrust causes more dissimilarity focused compression, which in turns weaken the violators group.

Perceiving Similarity Halt, B2 (Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner, Reynolds, Haslam, & Veenstra, 2006; Villatoro, Sen, & Sabater-Mir, 2010; Yang, 2000). Perception of Similarity resulted in violators group formation which resulted in government punishment. Punishment reduces the Group Behavior and as a result it decreases the Pro-Group Emotion which later affect the Perception of Similarity.

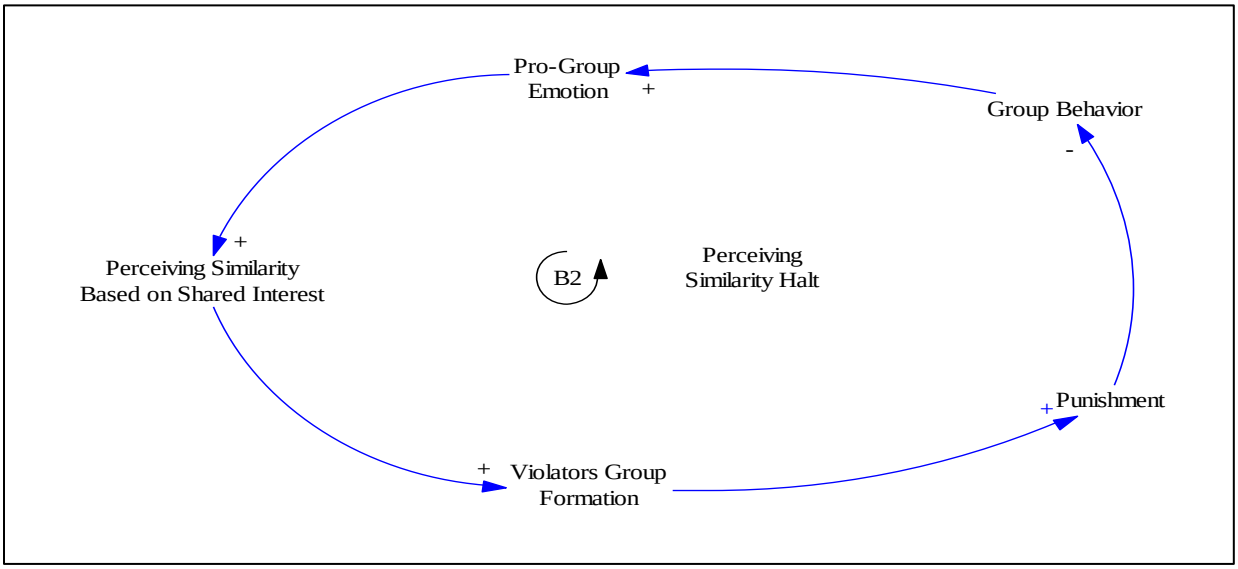

Figure 12. Perceiving Similarity Halt

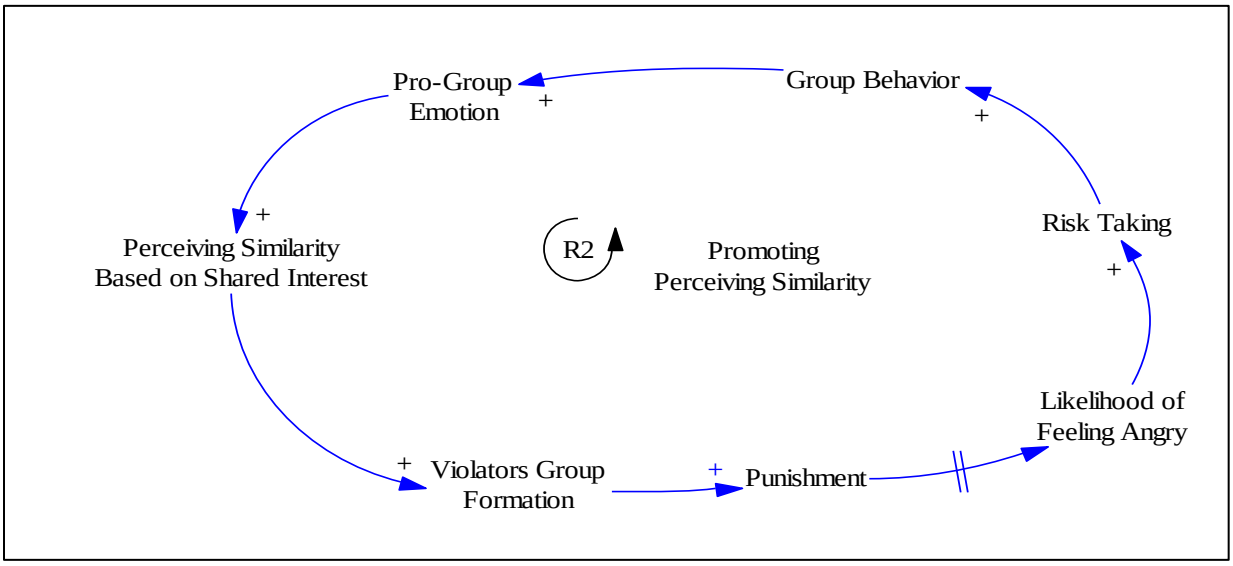

Figure 13. Promoting Perceiving Similarity

Promoting Perceiving Similarity, R2 (Campos-Vazquez & Cuilty, 2014; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Tversky & Kahneman, 1992; Villatoro et al., 2010; Yang, 2000). Perception of Similarity resulted in Violators Group Formation which in turn triggers government's punishment. Punishment increases feeling of

angriness. As a result, people take more risk and that increases Group Behavior. More Group Behavior increases the Pro-Group Emotion which later strengthens the perception of similarity.

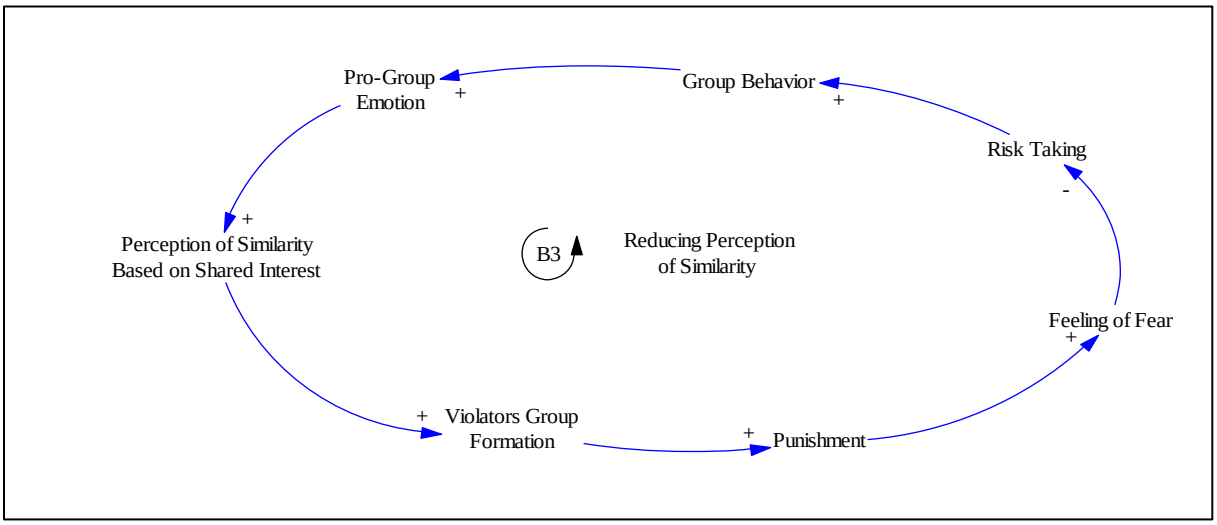

Figure 14. Reducing Perception of Similarity

Reducing Perception of Similarity, B3 (Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Villatoro et al., 2010; Wake et al., 2020; Yang, 2000). Perception of Similarity resulted in Violators Group Formation which in turn triggers government's punishment. Punishment increases Feeling of Fear. As a result, people take less risk and that decreases Group Behavior. Less Group Behavior reduces the Pro-Group Emotion which later weaken the perception of similarity.

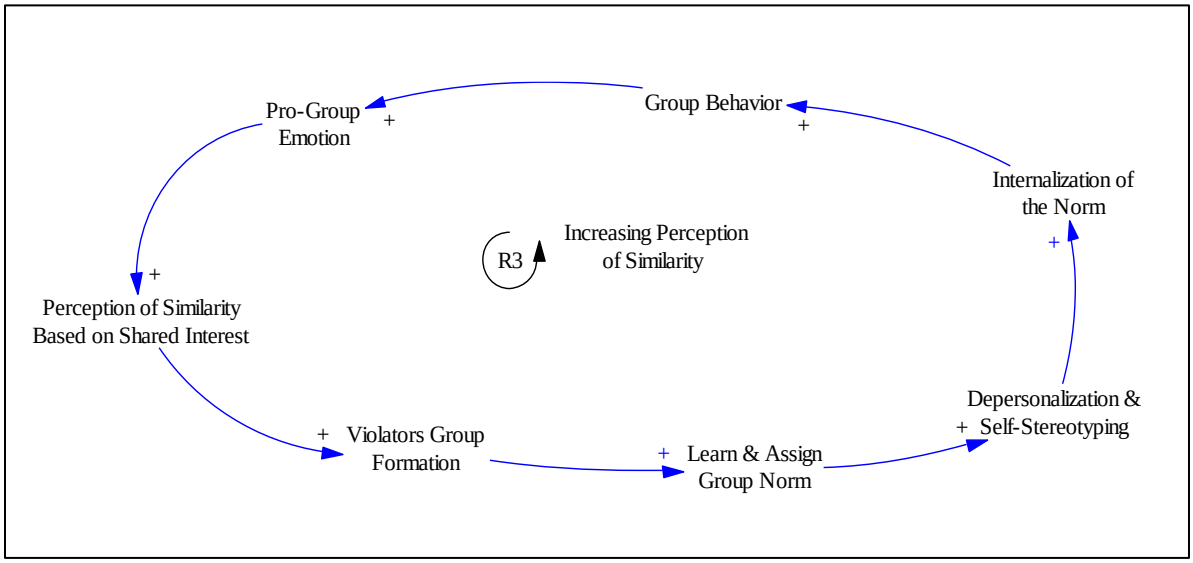

Figure 15. Increasing Perception of Similarity

Increasing Perception of Similarity, R3 (Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Yang, 2000). Perception of Similarity resulted in Violators Group Formation which in turn caused a greater number of people to learn and assign a new norm. That resulted in a greater number of people who self-stereotype and depersonalize and in consequence internalize the norm. Internalization of the Norm increases Group Behavior and, as a result, the Pro-Group Emotion which later increased the perception of similarity.

Less Perception of Similarity, B4 (Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norm and Personal Norm shapes Personal Identity. The stronger personal identity is the more individuals perceive the similarity and join the violators group which in turn triggers government punishment. Government punishment reduces Group Behavior. Thus, it weakens the Contesting/New Norm and, in consequence, Personal Values.

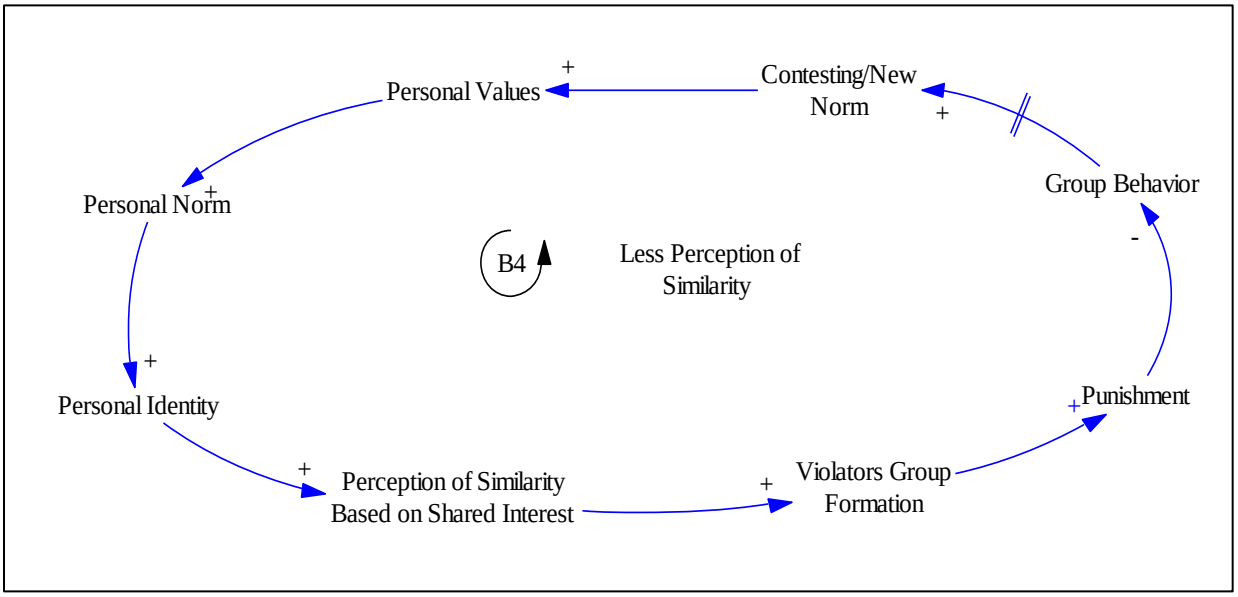

Figure 16. Less Perception of Similarity

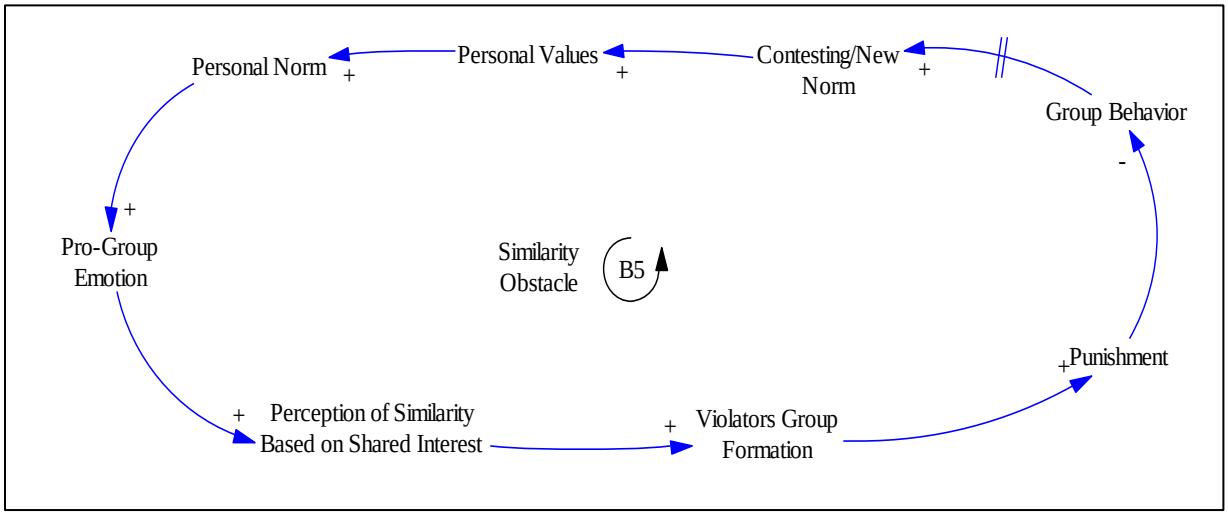

Figure 17. Similarity Obstacle

Similarity Obstacle, B5 (Dechesne et al., 2011; Mercer, 2014; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norm and Personal Norm shapes Pro-Group Emotion. The stronger Pro-Group Emotion is the more individuals perceive the similarity and join the

violators group which in turn triggers government punishment. Government punishments reduce Group Behavior. Thus, it weakens the Contesting/New Norm and, in consequence, Personal Values.

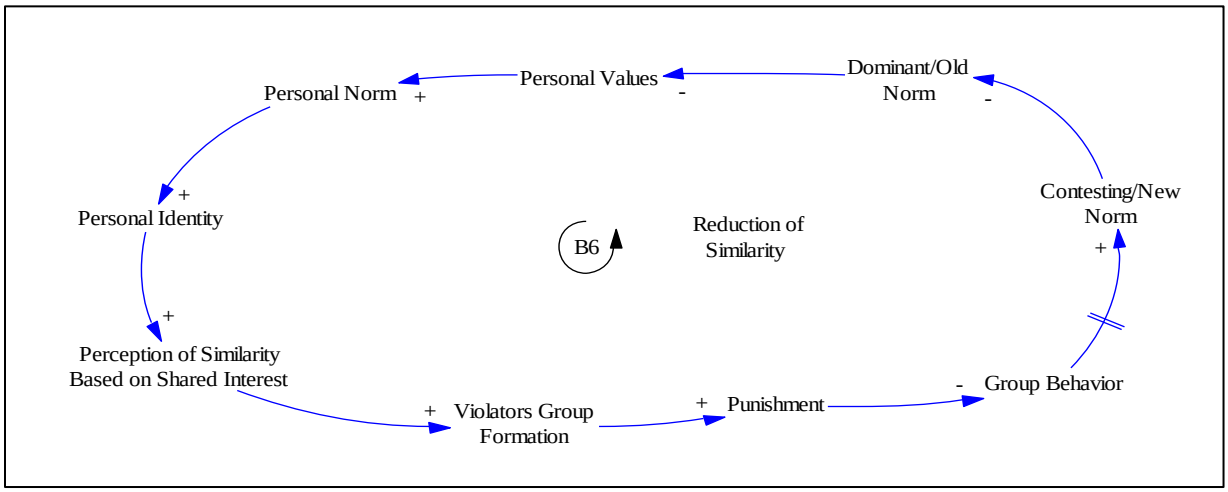

Figure 18. Reduction of Similarity

Reduction of Similarity, B6 (Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger the Personal Identity is the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Government punishments reduces Group Behavior; thus, it weakens the Contesting/New Norm. The weaker the new norm is the stronger the old norm is, which weakens Personal Values.

Pro-Group Emotion Halt, B7 (Dechesne et al., 2011; Mercer, 2014; Posner & Rasmusen, 1999; Vickers, 1973; Villatoro et al., 2010). (Turner & Reynolds, 2011). Personal Values shape Personal Norms and Personal Norms shape Pro-Group Emotion. The stronger the Pro-Group

Emotion is the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Government punishment reduces Group Behavior; thus, it weakens the Contesting/New Norm. The weaker the new norm is the stronger the old norm and that weakens Personal Values.

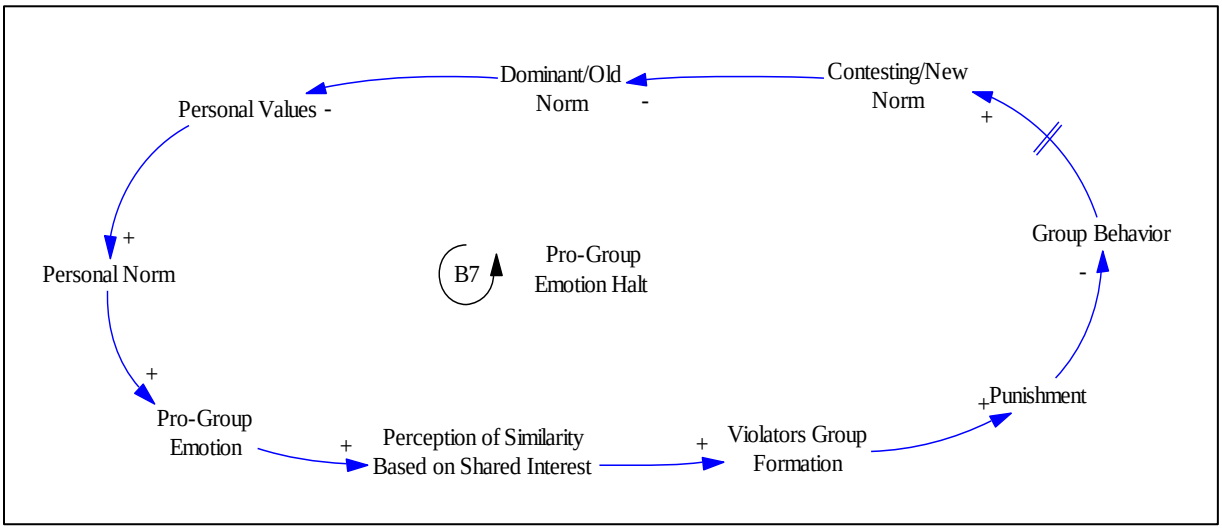

Figure 19. Pro-Group Emotion Halt

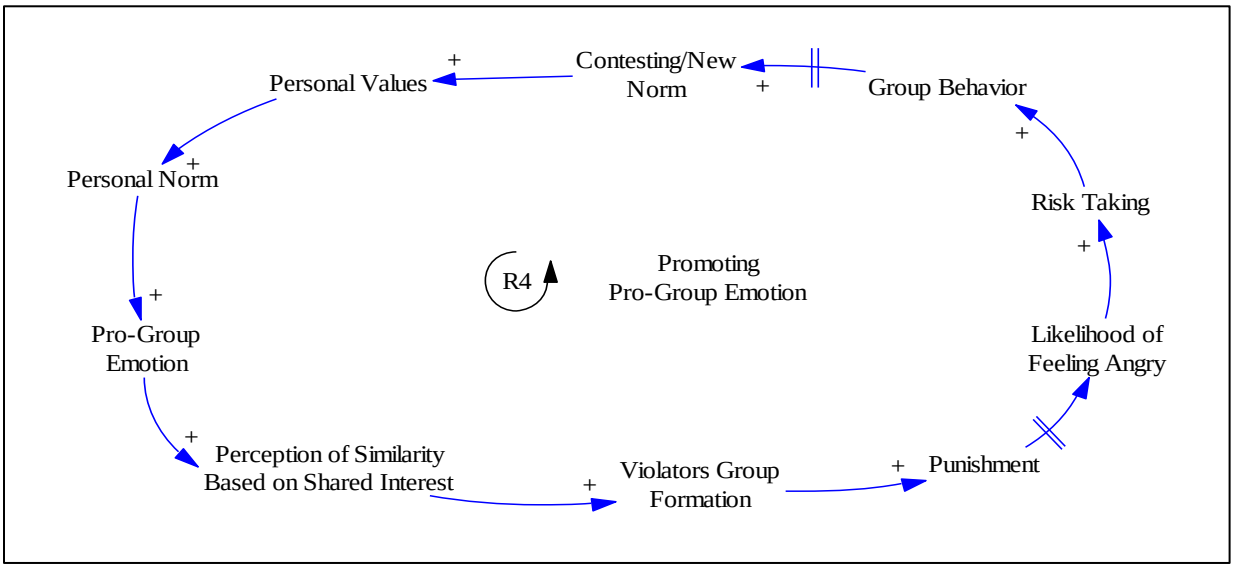

Figure 20. Promoting Pro-Group Emotion

Promoting Pro-group Emotion, R4(Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Pro-group Emotion. The stronger the Pro-Group Emotion is the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases feelings of angriness. As a result, people take more risk and that increases Group Behavior. The more Group Behavior the greater number of people adopt the new norm, which later strengthens the Personal Values.

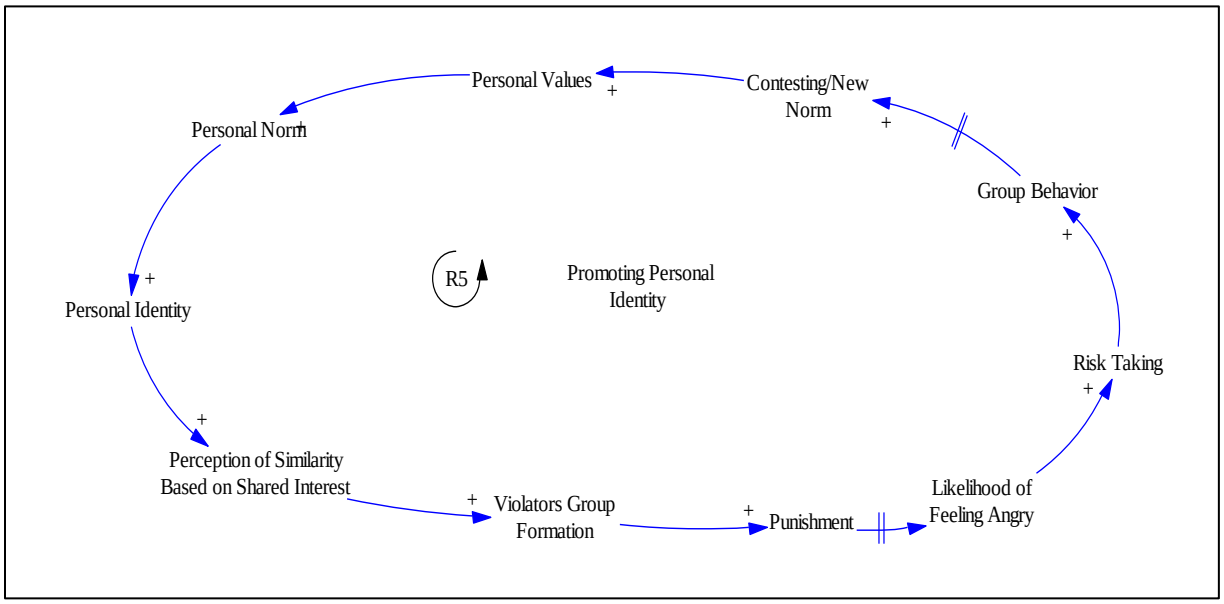

Figure 21. Promoting Personal Identity

Promoting Personal identity, R5(Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger Personal Identity is, the more individuals perceive the similarity

and join the violators group which, in turn, triggers government punishment. Punishment increases feelings of angriness. As a result, people take more risks and that increases Group Behavior. The more Group Behavior the greater number of people adopt the new norm, which later strengthens the Personal Values.

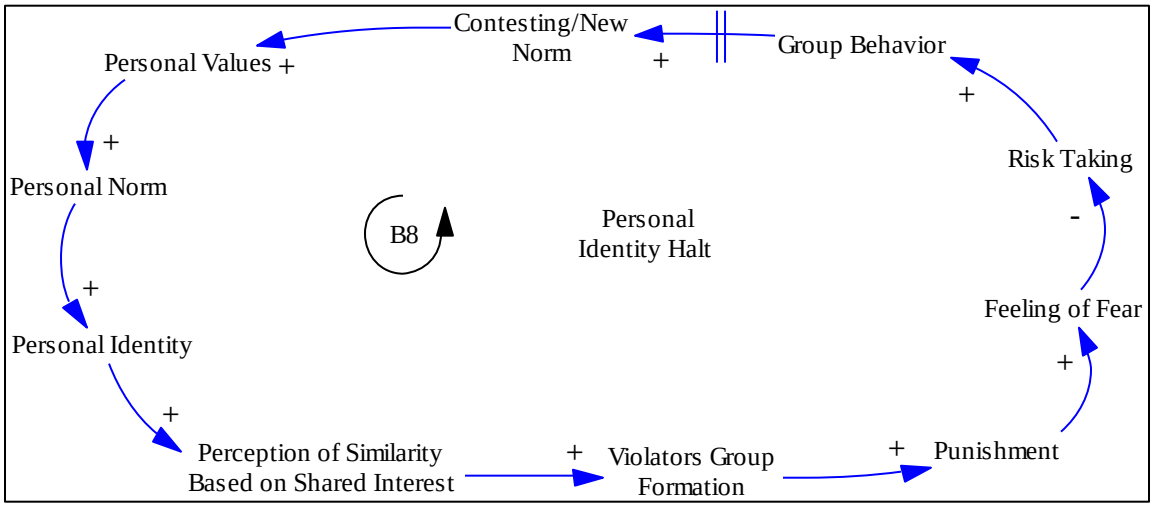

Figure 22. Personal Identity Halt

Personal Identity Halt, B8 (Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger Personal Identity is, the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases Feeling of Fear. As a result, people take fewer risks and that decreases Group Behavior. The less Group Behavior, the fewer number of people adopt the new norm, which later weakens the Personal Values.

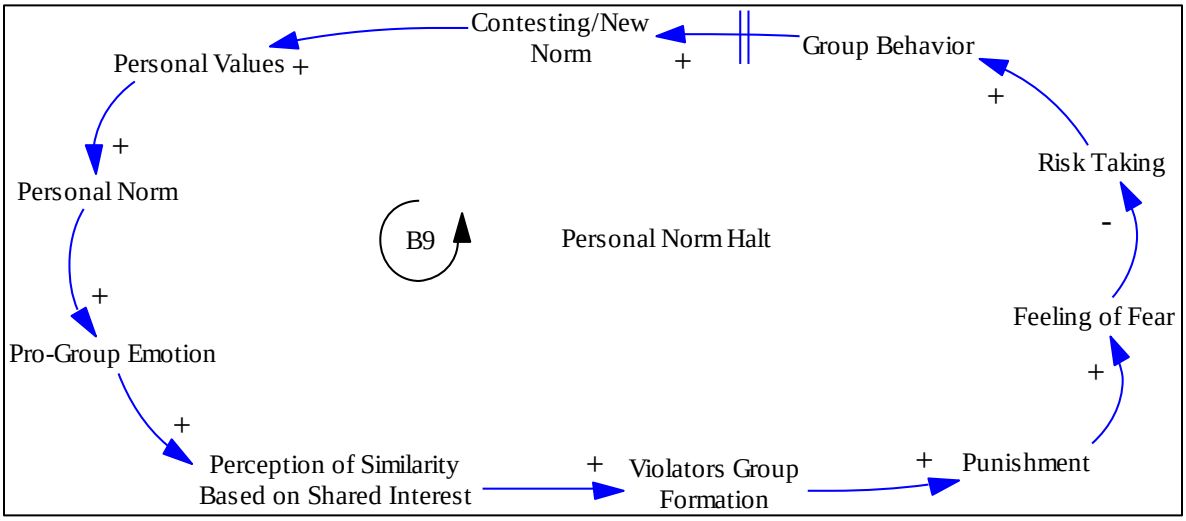

Figure 23. Personal Norm Halt

Personal Norm Halt, B9 (Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Pro-Group Emotion. The stronger Pro-Group Emotion is, the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases Feeling of Fear. As a result, people take fewer risks and that decreases Group Behavior. The less Group Behavior the fewer number of people adopt the new norm, which later weakens the Personal Values.

Promoting Personal Norm, R6 (Mercer, 2014; Turner & Reynolds, 2011; Turner et al., 2006). Personal Values shape Personal Norms and Personal Norms shapes Pro-Group Emotion. The stronger Pro-Group Emotion is the more individuals perceive the similarity and join the violators group which, in turn, causes a greater number of people to learn and assign a new norm. That results in a greater number of people who self-stereotype and depersonalize and therefore

internalize the norm. Internalization of the Norm increases Group Behavior and, as a result, a greater population adopts the new norm and that strengthens the Personal Value.

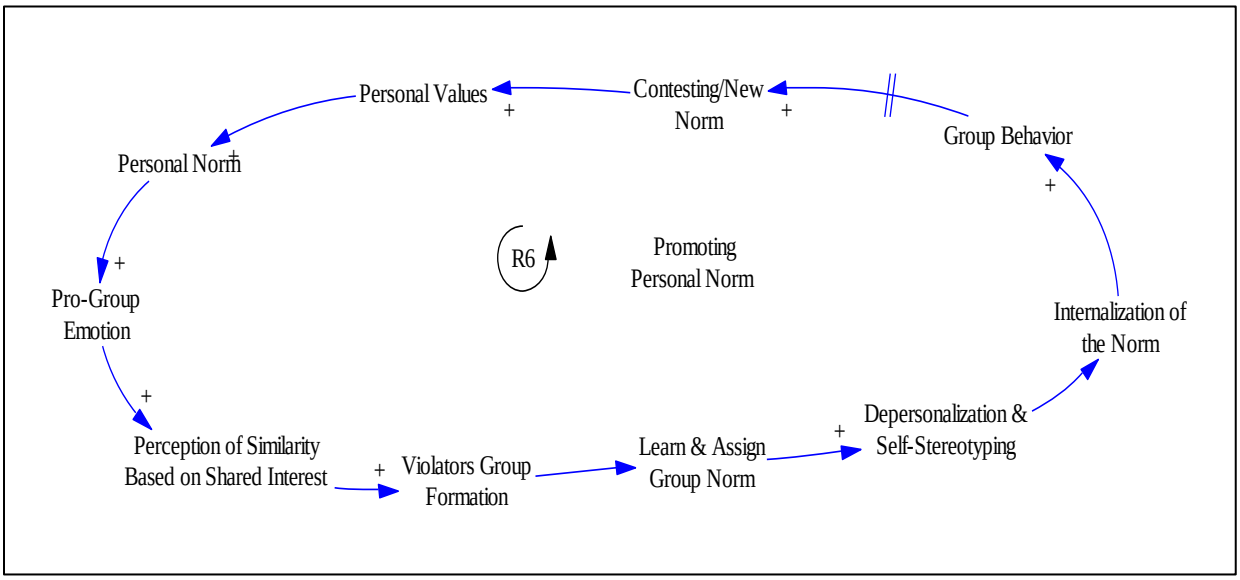

Figure 24. Promoting Personal Norm

Increasing Group Behavior, R7 (Mercer, 2014; Turner, 1985; Turner et al., 2006). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger Personal Identity is, the more individuals perceive the similarity and join the violators group which, in turn, causes a greater number of people to learn and assign a new norm. That results in a greater number of people who self-stereotype and depersonalize and therefore internalize the norm. Internalization of the Norm increases Group Behavior and in consequence a greater population adopts the new norm and that strengthens the Personal Value.

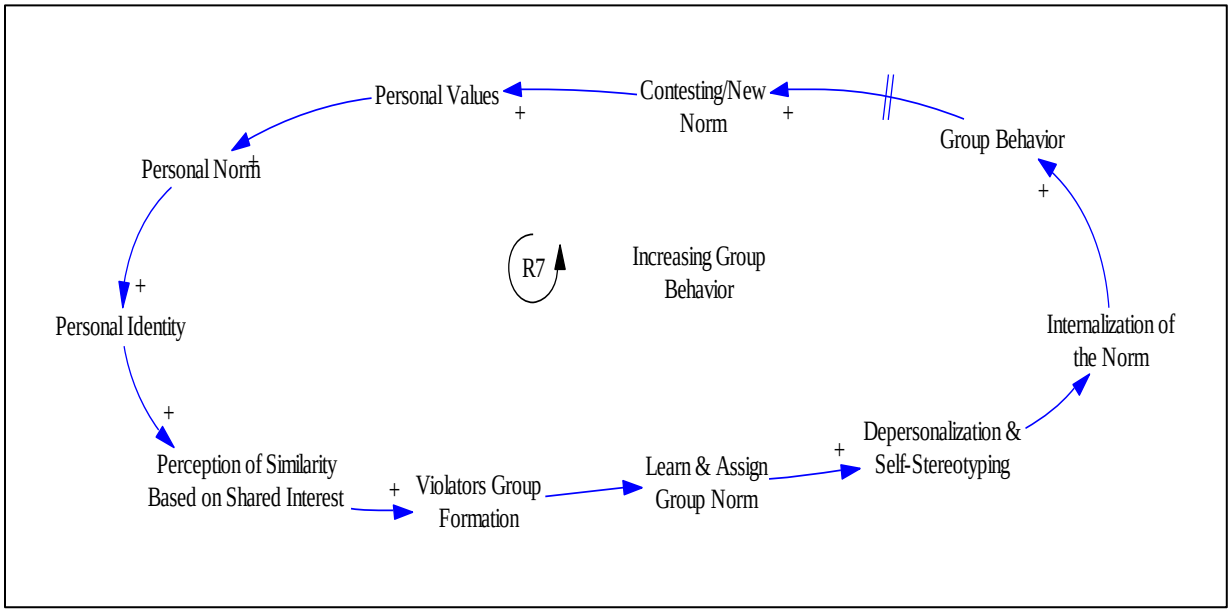

Figure 25. Increasing Group Behavior

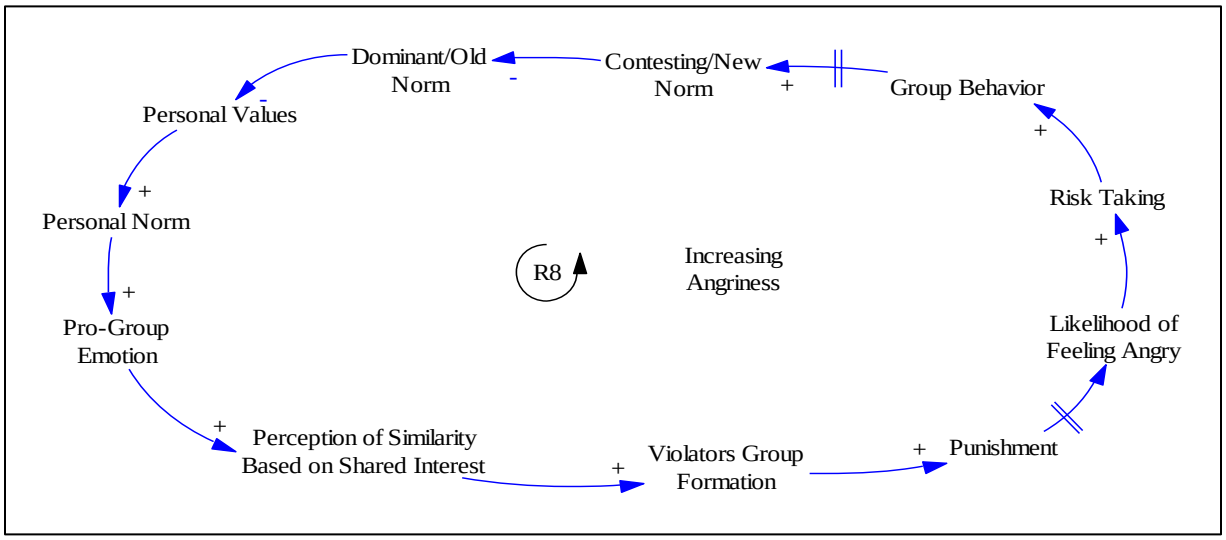

Figure 26. Increasing Angriness

Increasing Angriness, R8 (Campos-Vazquez & Cuilty, 2014; Dechesne, Di Tosto, Dignum, & Dignum, 2013; Posner & Rasmusen, 1999; Turner, 1985; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal

Norms shape Pro-Group Emotion. The stronger Pro-Group Emotion is, the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases feeling of angriness. As a result, people take more risks and that increases Group Behavior. More Group Behavior causes a greater number of people to adopt the new norm, which later weakens the old norm and strengthens the Personal Values.

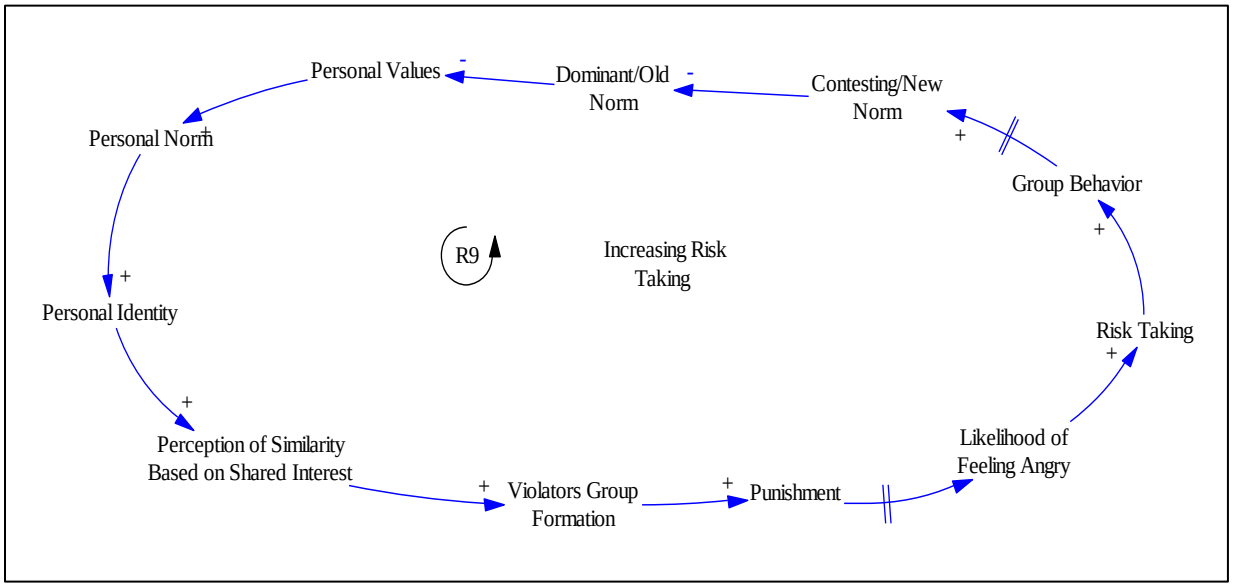

Figure 27. Increasing Risk Taking

Increasing Risk Taking, R9 (Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Posner & Rasmusen, 1999; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger Personal Identity is the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases feelings of angriness. As a result, people take more risks and that increases Group

Behavior. Increased Group Behavior results in a greater number of people adopting the new norm, which later decreases the old norm followers and strengthens the Personal Values.

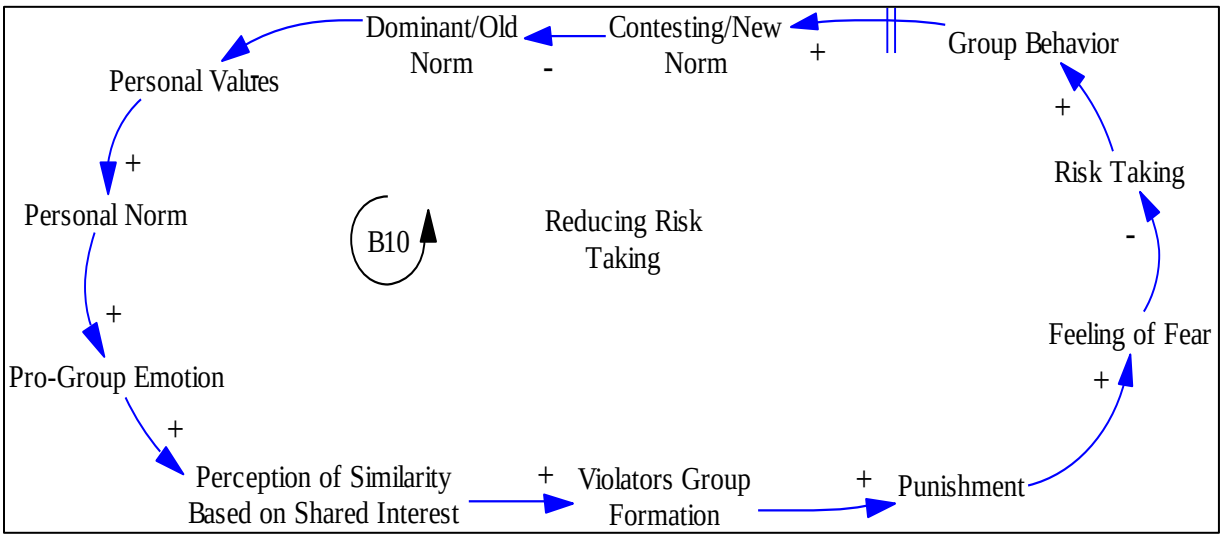

Figure 28. Reducing Risk Taking

Reducing Risk Taking, B10 (Campos-Vazquez & Cuilty, 2014; Dechesne et al., 2011; Turner & Reynolds, 2011; Tversky & Kahneman, 1992; Vickers, 1973; Villatoro et al., 2010). Personal Values shape Personal Norms and Personal Norms shape Pro-Group Emotion. The stronger Pro-Group Emotion is, the more individuals perceive the similarity and join the violators group which, in turn, triggers government punishment. Punishment increases Feeling of Fear. As a result, people take fewer risks and that decreases Group Behavior. The less Group Behavior the fewer number of people adopt the new norm which later both strengthens the old norm and weakens the Personal Values.

Promoting Depersonalization, R10 (Mercer, 2014; Turner, 1985; Turner & Reynolds, 2011). Personal Values shape Personal Norm and Personal Norm shapes Pro-Group Emotion. The stronger Pro-Group Emotion is, the more individuals perceive the similarity and join the

violators group which, in turn, causes a greater number of people to learn and assign a new norm. That results in a greater number of people who self-stereotype and depersonalize and therefore internalize the norm. Internalization of the New Norm increases Group Behavior and in consequence a greater population adopts the new norm and that weakens the old norm and strengthens Personal Value.

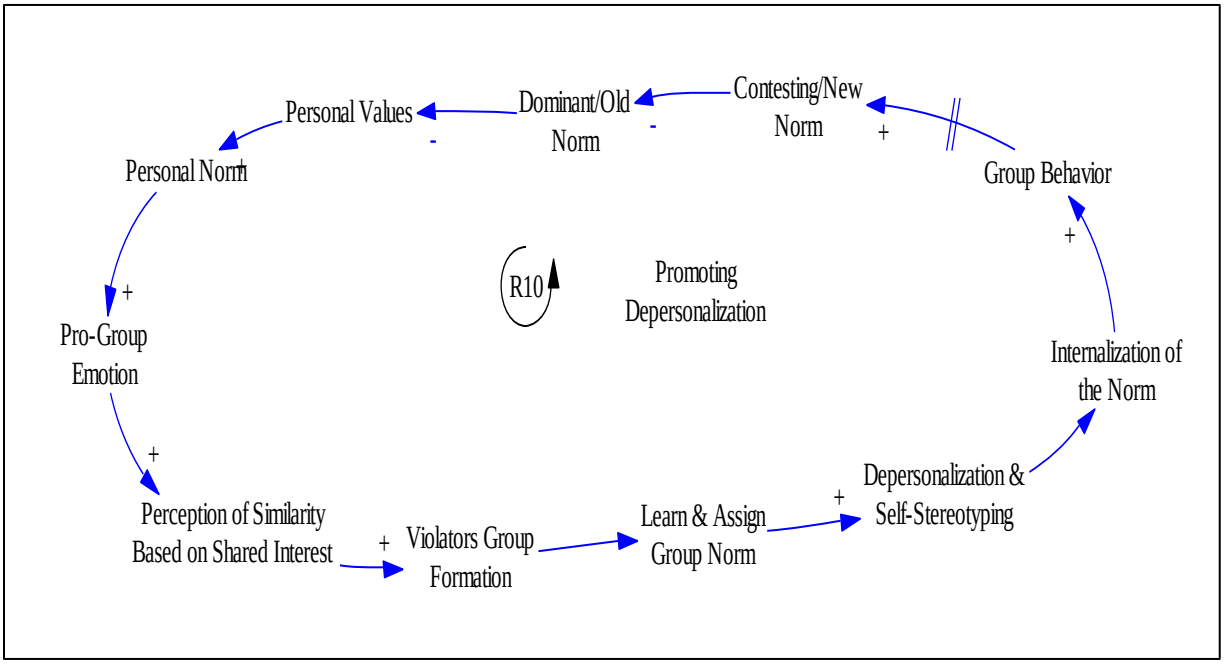

Figure 29. Promoting Depersonalization

Promoting Self-Stereotyping, R11 (Mercer, 2014; Turner, 1985; Turner & Reynolds, 2011; Turner et al., 2006). Personal Values shape Personal Norms and Personal Norms shape Personal Identity. The stronger Personal Identity is, the more individuals perceive the similarity and join the violators group which, in turn, causes a greater number of people to learn and assign a new norm. That results in a greater number of people who self-stereotype and depersonalize and therefore internalize the norm. Internalization of the New Norm increases Group Behavior and in

consequence a greater population adopts the new norm and that weakens the old norm and strengthens Personal Value.

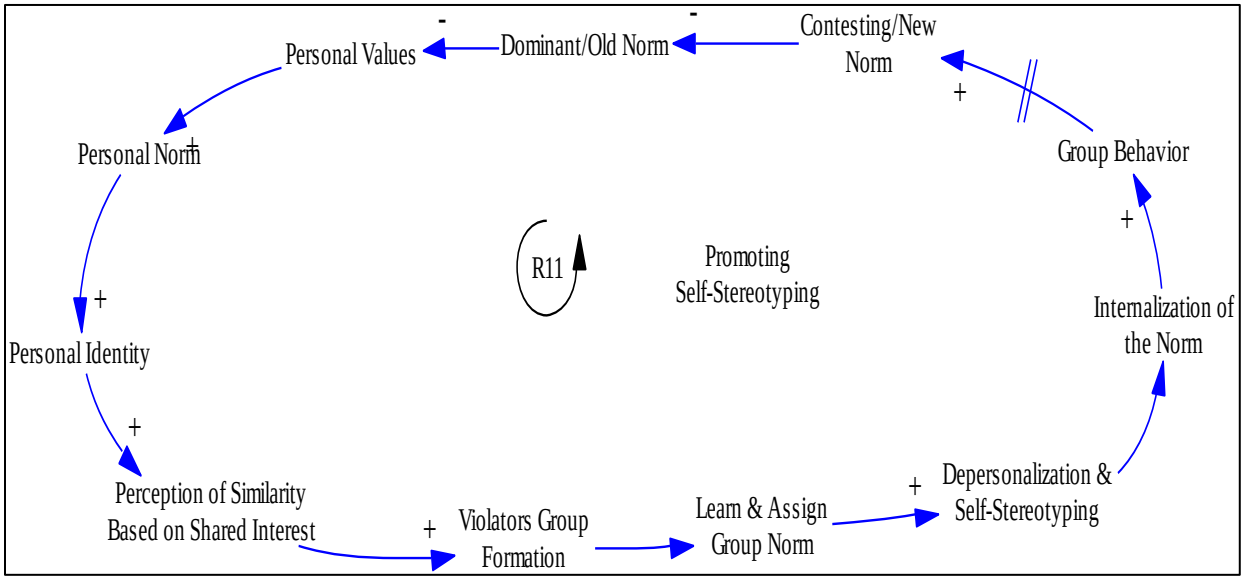

Figure 30. Promoting Self-Stereotyping

Group Behavior Promotion, R12 (Forsyth, 1990). The stronger the Contesting/New Norm is, the less Peer-Pressure is perceived by violators which, in turn, increases Risk Taking. More Risk-Taking results in more Group Behavior and in consequence stronger Contesting/New Norm.

New Norm Promotion, R13 (Forsyth, 1990). The stronger the Contesting/New Norm is, the weaker the Dominant/Old Norm is and, thus, less Peer-Pressure is perceived by violators which, in turn, increases Risk Taking. More Risk Taking results in more Group Behavior and in consequence stronger Contesting/New Norm.

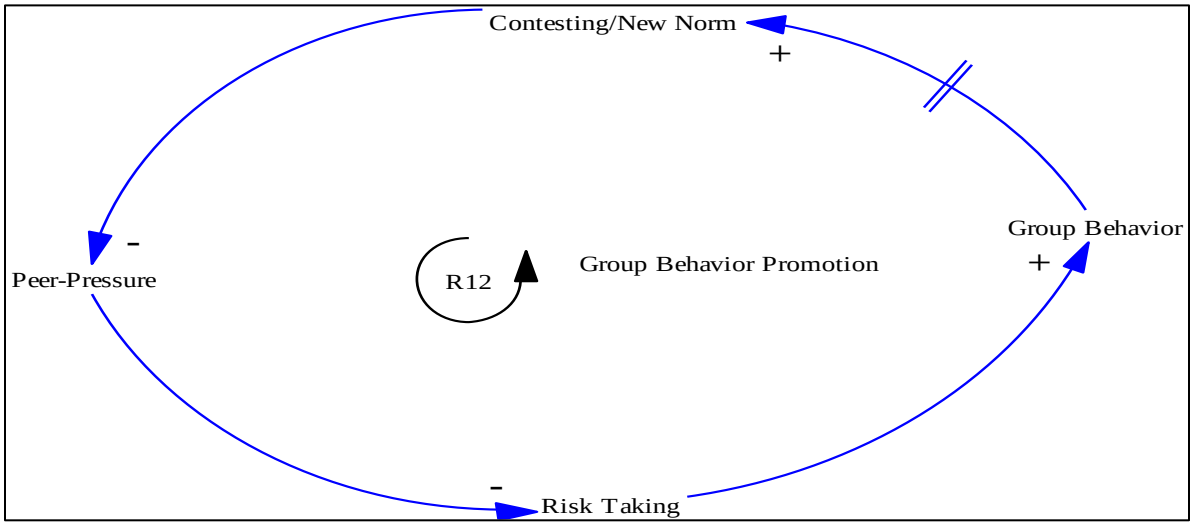

Figure 31. Group Behavior Promotion

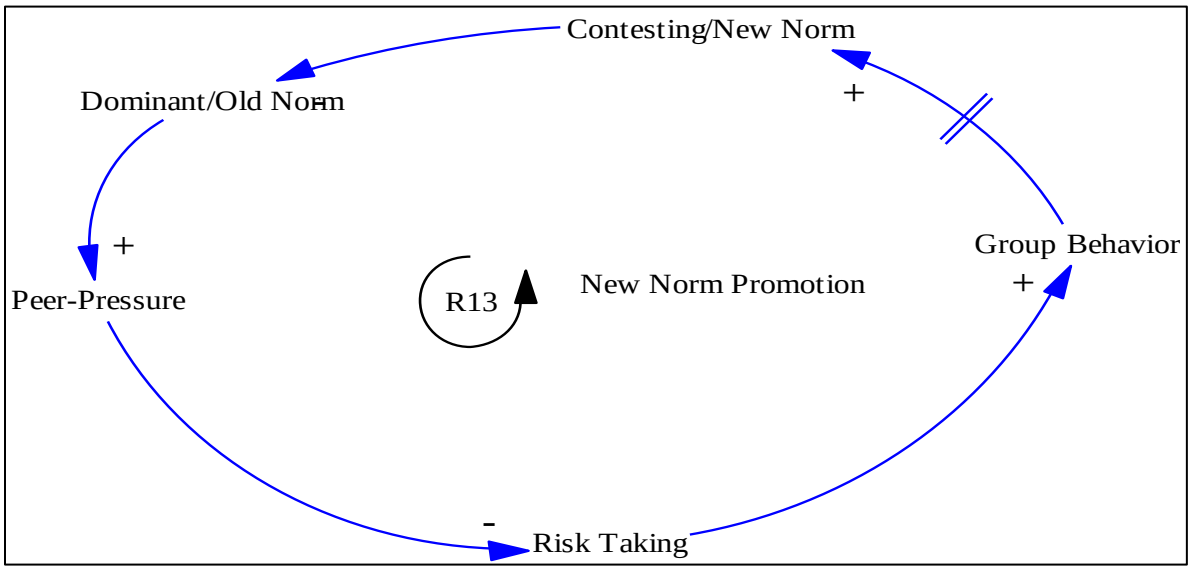

Figure 32. New Norm Promotion

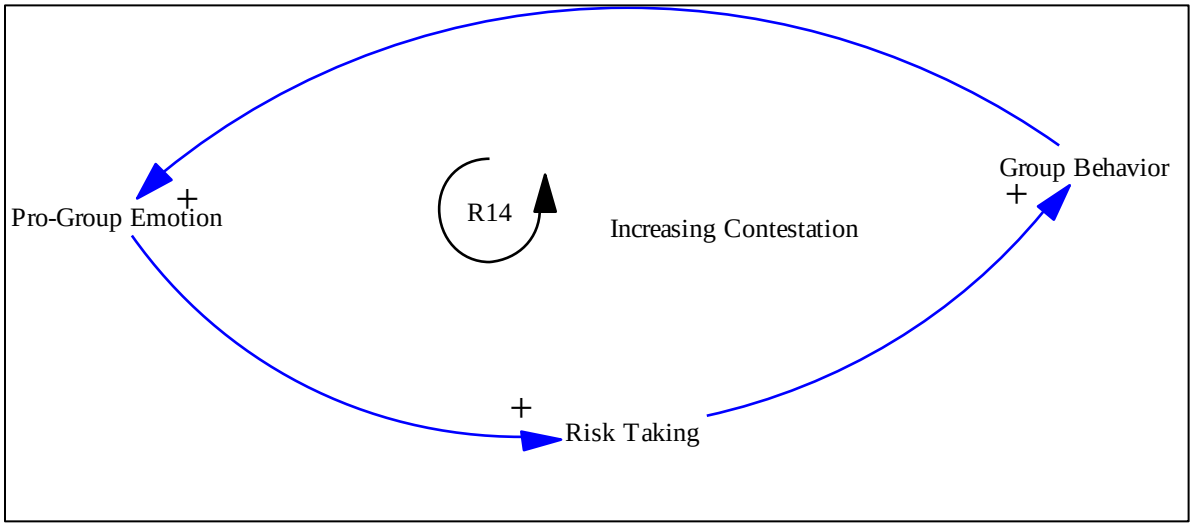

Figure 33. Increasing Contestation

Increasing Contestation, R14(Campos-Vazquez & Cuilty, 2014; Forsyth, 1990; Nguyen & Noussair, 2014; Yang, 2000). The more Pro-Group Emotion, the more individuals take risks and, as a result, that increases violation of Group Behavior which, in turn, strengthens Pro-Group Emotion.

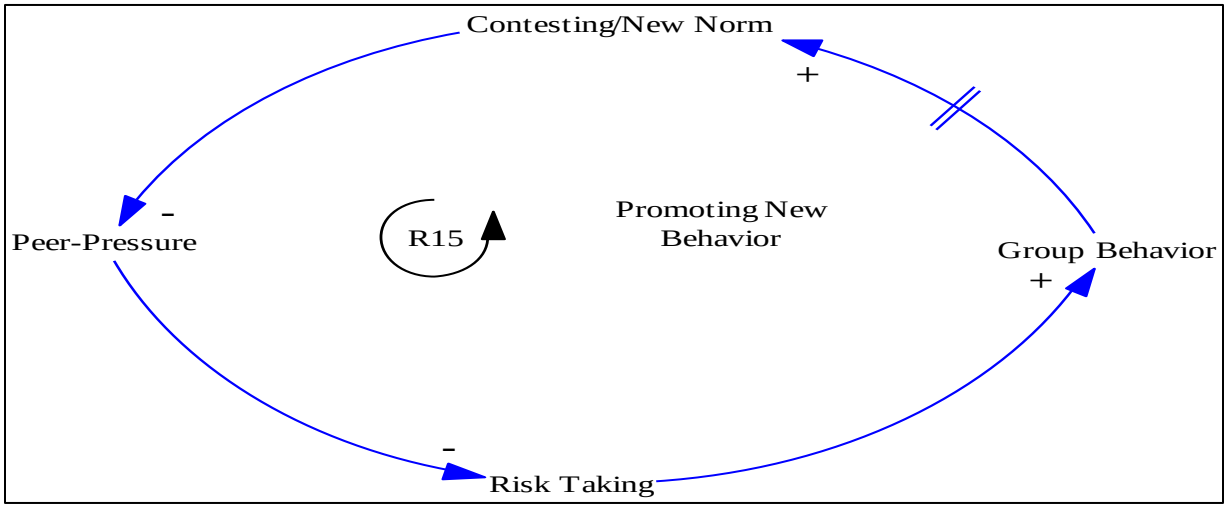

Figure 34. Promoting New Behavior

Promoting New Behavior, R15 (Forsyth, 1990). The stronger the Contesting/New Norm is, the less Peer Pressure is perceived by violators which, in turn, increases Risk Taking. More Risk-Taking results in more Group Behavior and, in consequence, stronger Contesting/New Norm.

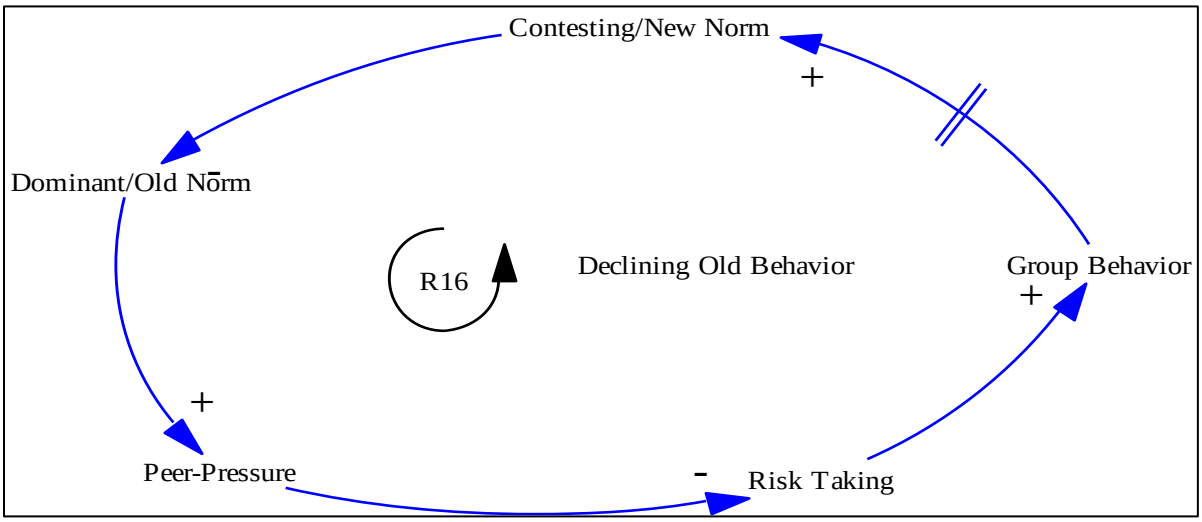

Figure 35. Declining Old Behavior

Declining Old Behavior, R16 (Forsyth, 1990). The stronger the Contesting/New Norm is, the less Peer-Pressure is perceived by violators which, in turn, increases Risk Taking. More Risk-Taking results in more Group Behavior and, in consequence, stronger Contesting/New Norm and weaker Dominant/Old Norm.

Increasing Contesting Norm, R17(Dechesne et al., 2011; Forsyth, 1990; Mercer, 2014; Turner et al., 1987; Vickers, 1973). Personal Values shape Personal Norm. The stronger Personal Norm is the more individuals perceive the Pro-Group Emotion. More Pro-Group Emotion results in more Risk Taking and, as a result, more Group Violating Behavior. The more violators practice the new norm the greater number of people adopt the new norm and in this strengthens Personal Values.

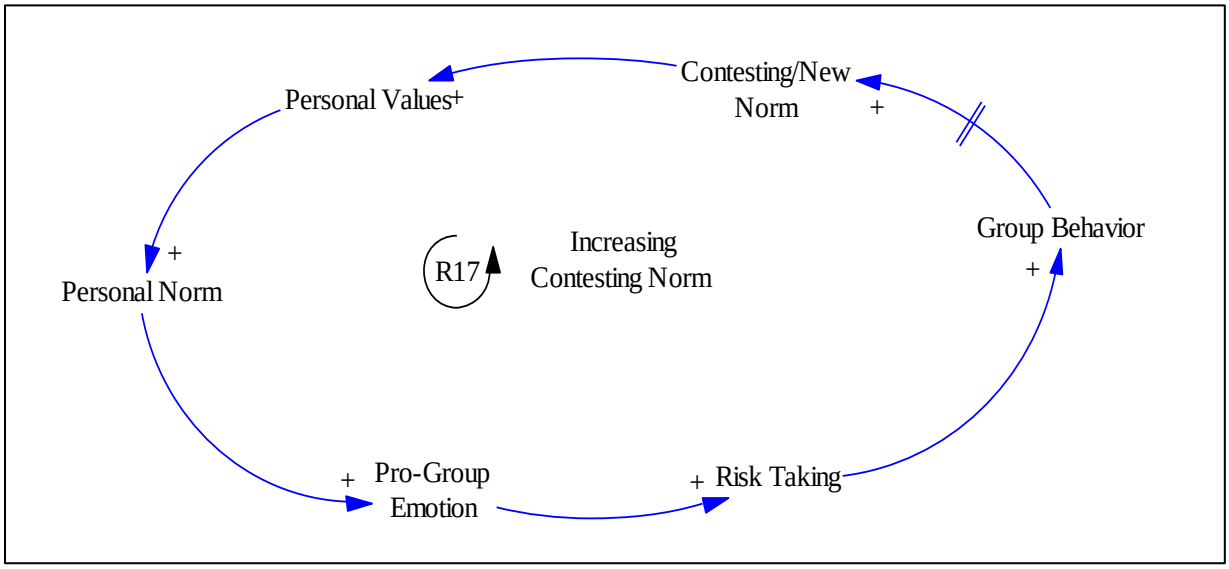

Figure 36. Increasing Contesting Norm

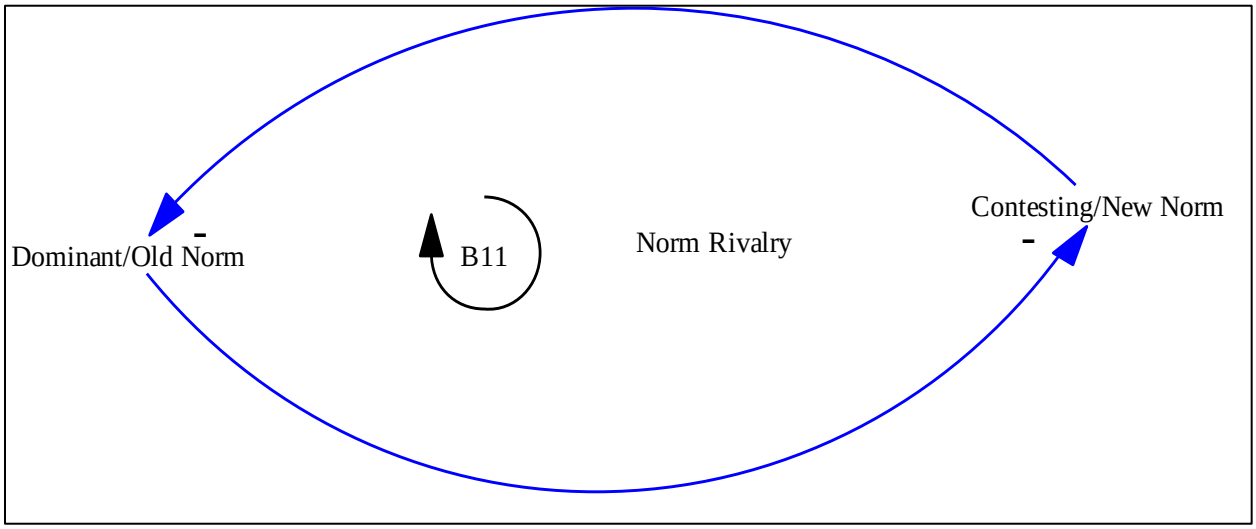

Figure 37. Norm Rivalry

Norm Rivalry, B11. Dominant/Old Norm competes with the Contesting/New Norm.

Conclusion

In this chapter I describe social identity theory, which is the foundation for the conceptual model. I provide the conceptual model or dynamic hypothesis as 42 claims and assumptions. And to depict the logical relationships between norm emergence variables I use CLDs. For the purposes of both clarity and structural verification, I explain each loop separately: in total there were 12 balancing loops and 17 reinforcing loops. New contributions to knowledge emerged through this process which are depicted in Figure 13. (Promoting Perceiving Similarity), which is loop R2, and Figure 27. (Increasing Risk Taking) which is loop R9. Based on loop R2, Pro-Group Emotion resulted in perception of similarity and later Violators Group Formation. However, as expected, government punishment of those violators increases angriness. Feeling of angriness increases Risk Taking and more violating actions. The more violating actions indeed intensified Pro-Group Emotion, a perception of similarity among the group. In another way, as loop R9 shows, angriness due to government punishment resulted in more Group Behavior and, as a result, increased the number of new norm followers. Thus, punishment may, depending upon the magnitude of these effects, play the role of an accelerator in those cases rather a prohibitor. Although this qualitative model provides us valuable insight regarding the research questions, to get deeper insight and more details a simulation model is needed. In the following chapter, I will explain the simulation model structure in detail.

SIMULATION MODEL

Introduction

In the previous chapter I discussed the conceptual model, which is based on existing theories in the literature and provides the logic and reference for the dynamic hypothesis. To implement the conceptual model, I use a system dynamic modeling approach. The simulation model is built in Vensim. In this chapter, I will explain the simulation model's structure. To do so I start by explaining the overview of the model. After that, I divide the model in several sub models and discuss all variables and parameters in detail including their description, their units, and equations for both clarity and reproducibility.[16] Finally, I discuss several tests which need to be run to ensure that the model's behavior and structure are valid. To explain the model's structure, I combine the guidelines to report a simulation-based model in social science (Rahmandad & Sterman, 2012) with examples from the literature (Pierson & Sterman, 2013).

Telling the Story of Contesting Norm Emergence

When a person or a few people who believe in a new norm begin to contest the harmful old norm—to not only show their opposition but to draw attention to the problem—it is hard for other members of the society, who have a shared interest with those violators, to not join them. As a result, movement from the old norm begins toward the new norm with an increasing number of people joining the violators group. However, these people have not fully denied the old norm and there is a likelihood that they may find that the old norm fulfills their interest better and so return to the general population. The next step in moving toward a new norm is to have violators internalize the new norm through education. Because it is true that they do not believe

[16] Reproducibility is to provide enough information for other researchers in case if they want to reproduce this model.

in the old norm, but they still do not believe in any other norm, they are a population which might be convinced to follow other norms. The increase in the number of people who internalize the norm means the society faces more violations of the old norm. But violating the old norm is harder and riskier at the early stages of a collective behavior change due to both government punishment and peer punishment. People are likely to be afraid they will lose their job, life, reputation, and even their friends and family. With time and as the violating behavior persists, a new norm gains more popularity. This shift in the population makes risk taking more easier and, in consequence, the violating behavior happens more openly until the new norm eventually gains sufficient followers to have enough power to change the old norm through institutions. Nevertheless, this new norm itself is always in danger of being challenged, weakened, and replaced by another norm when people find that norm fulfills their goals and interests better. This is the brief story of the stock and flow model but it is important to remember that emergence of a new norm is not the only story that I can tell, and there is a possibility that it does not emerge due to structural resistance and lack of resources like educational resources. I will talk about those factors in detail in the following chapters.

Model Structure

The simulation model has been built around four main population stocks, which in sum are equal to the total population of the society. Figure 38. shows these stocks and respective flows. Each of these four stocks represent one state of population which can transfer to another. In other words, stocks respectively change from old norm populations to violator group populations, to populations that internalized the new norm, to new norm followers' populations, to any of the other states. In this study, I assume that when the new norm population reaches most of the total population, public opinion will affect the institutions capable of changing the

harmful norm. This assumption has its root in constructivists' claim that people's value and opinions have a direct influence on government officials and their policies (Sjöstedt 2007). By studying people's opinions, I should be able to make predictions about government behavior. After talking to the subject matter expert in the field, I consider a 100-year window of time to see if this transition would happen.

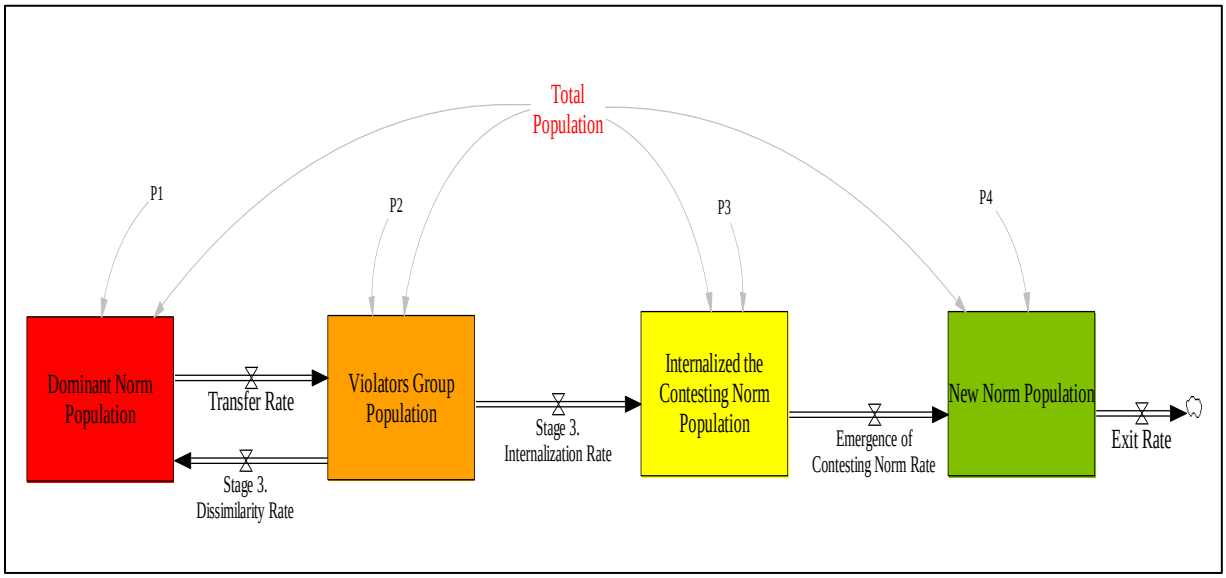

Figure 38. Model's Main Stocks and Flows

Dominant/Old Norm Population:[17] The Dominant/Old Norm Population is the portion of the total population that follows the harmful legal norm. This population is also considered a

[17] For this model we use old norm, dominant norm, and harmful legal norm interchangeably.

potential population to violate the old norm. I assume that a portion of this population, by seeing initial violator actions, perceived the similarity due to common interests and therefore joined the violators.

*Dominant Norm Population = INTEG ("Stage 3. Dissimilarity Rate"-Transfer Rate, Total Population*P1)*

INTEG show that this is a stock variable and the amount after the comma is the initial value for this stock. Total population is a constant and it is the population of the target society. P1 is the percent of the population that follows the old norm. Thus, initial value is equal to total population * P1.

Violators Group Population: The Violators Group Population is the portion of the total population that perceives that they are similar to the initial violators and categorize themselves as violators, but still are not completely familiar with the norm and goal of the group. They still need to learn, assign, and internalize the new norm. The people in this population are not yet true believers in the new norm, so there is a likelihood that some of them may perceive it as an incompatible goal and experience dissimilarity with the group and therefore become detached from it. P2 is the percent of the population that violates the old norm. Thus, the initial value for this stock is equal to total population * P2.

*Violators Group Population = INTEG (Transfer Rate-"Stage 3. Internalization Rate"-"Stage 3. Dissimilarity Rate", Total Population*P2)*

Internalized the Contesting Norm Population: The portion of the total population that internalize the new norm and truly believe in it. P3 is the percent of the population that internalizes the new norm. Thus, initial value for this stock is equal to total population * P3.

*Internalized the Contesting Norm Population = INTEG ("Stage 3. Internalization Rate"-Emergence of Contesting Normative Context Rate, Total Population * P3)*

New Norm Population:[18] The portion of the total population that follows and believes in the new norm. Finally, when the internalized population—including those who did not behave based on the new norm before—start doing so, they transfer to the new norm population. P4 is the percent of the population that behaves according to the new norm. Thus, initial value for this stock is equal to total population * P4.

*New Norm Population = INTEG (Emergence of Contesting Normative Context Rate-Exit Rate, Total Population * P4)*

The main five flows among these stocks as shown in Figure 38. are: (1) "Transfer Rate," which shows the change in the population that transfers from the old norm to the violators population based on the perception of similarity. This perception of similarity, as discussed in the conceptual model chapter, has its root in people's shared interest. (2) "Stage 3. Dissimilarity Rate," which shows the change in the population of those who transfer from the violators population to the old norm population. This happens due to a perception of dissimilarity and distrust toward the group norm. (3) "Stage 3. Internalization Rate," which shows the change in population of those who transfer from the violators population to the next stock, which is the population that has internalized the contesting norm. (4) "Emergence of Contesting Normative Context Rate," which shows the change in the population of those who transfer from the internalized population toward the new norm population. (5) "Exit Rate," which shows the change in population of those who transfer from the new norm population into another norm or

[18] It should be noted that we use new norm and contesting norm interchangeably.

back to the old norm.[19] Having discussed the model's major stocks and flows, I will now briefly explain the five sub models that drive the model. The first sub model is "Perception of Similarity," which shows the dynamic process and main driving factor behind the population transfer from old norm to violators group. The second sub model is called "Perception of Dissimilarity," which shows the main reason some portion of the violators population goes back to the old norm. "New Norm Internalization" is the third sub model and is focused on the process needed for violators in the New Norm Population to internalize the norm. The fourth sub model is "Emergence of New Norm," which explains the actions needed for the new norm believers to turn the new norm into a normative behavior of the society. Finally, the fifth sub model is "Exit from the New Norm," which shows the population that leaves a new norm population.

To build the model and its five sub models, I use several auxiliary and constant variables such as Time Delay, Look Up Function,[20] Firsthand control, and STEP function. Next, I discuss each of the sub models in detail.

Sub-Model 1: "Perception of Similarity"

As I discussed earlier, the main element that affects transfer rate from the old population to the violators population is perception of similarity. Figure 39. shows the overview of this sub model.

Perception of Similarity: People perceive similarity based on their shared interests which could be many different things such as their job, gender, grievance, and many others. I define perception of similarity below:

[19] Exit Rate represents people who change their mind and no longer believe in the new norm when they find the new norm does not fulfill their interests anymore. This population might decide to go back to any of the stock (i.e. old norm population or violators population), but study of that is beyond the scope of this dissertation.

[20] Look up function or graphical function shows the non-established mathematical relations between variables.

Perception of Similarity: SMOOTH (MAX ("Pro-Category Emotion" + Personal Identity, 0), AT Similarity)

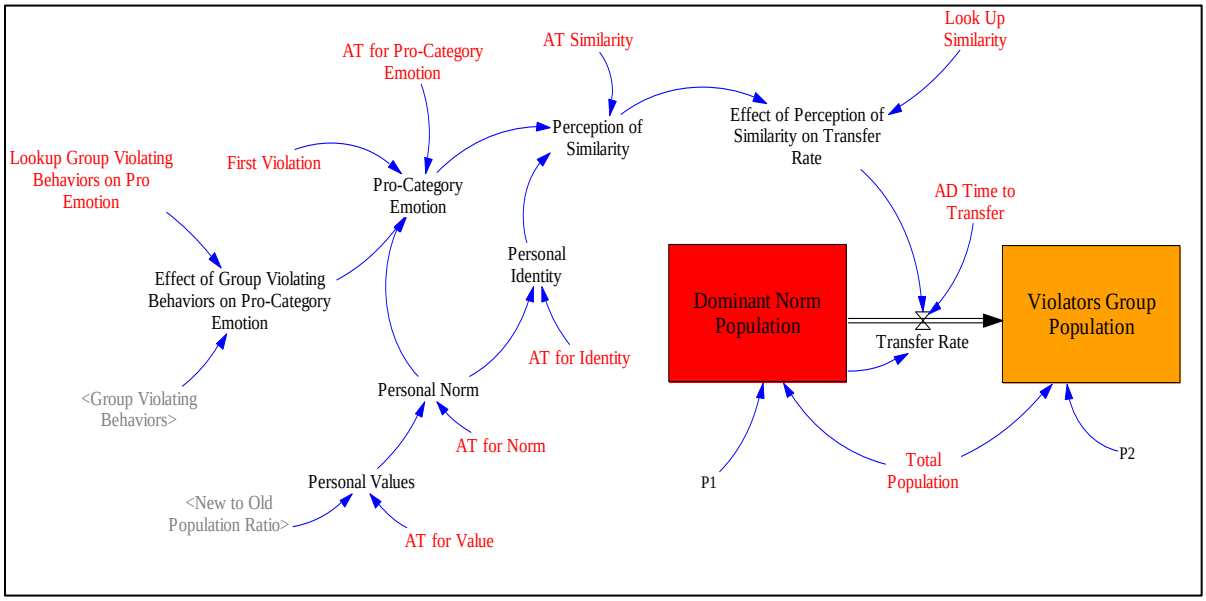

Figure 39. Sub Model 1: Perception of Similarity

I use the MAX function to return the amount of perception of similarity >= 0. The SMOOTH function is used since perceiving similarity does not happen quickly. The SMOOTH function has an implicit characteristic of stock variable.

There are several auxiliary variables: Pro-Category Emotion, First Violation, Personal Norm, Personal Identity, and Personal Values. The look up functions consist of Effect of Group Violating Behavior on Pro-Category Emotion; Effect of Old to New Norm Ratio on Personal Values; and Perception of Similarity. In what follows I explain each of them in detail.

Pro-Category Emotion: This variable has a positive effect on the perception of similarity rate. However, this variable itself is affected by three other factors: (1) Personal Norm shapes both Personal Identity and Pro-Category-Emotion. As a result, those who accept the new norm

are in favor of violators; (2) Group Violating Behavior also has impact on Pro-Category Emotion. When we observe that our family and relatives are involved in some behavior, it awakens our emotions toward the group. And, last is; (3) First Violation, which triggers the observer's emotion and in consequence results in perception of similarity based on shared interest.

*"Pro-Category Emotion" = SMOOTH ((Personal Norm * "Effect of Group Violating Behaviors on Pro-Category Emotion") + First Violation, "AT for Pro-Category Emotion")*

First Violation: This variable represents the effect of initial violation on perception of similarity. Figure 40. shows how this function affects the relative variables. I represent first violation by a STEP function as shown below:

First Violation = STEP (0.5, 10)

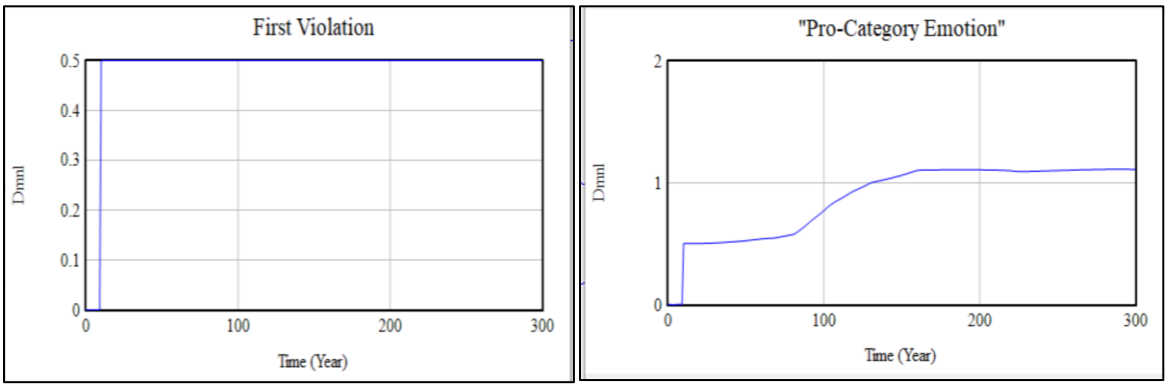

Figure 40. First Violation and its Effect on Pro-Category Emotion

That means the function returns zero from time zero until time 10 when the First Violation occurs. As a result, there is a 0.5 increase in the perception of similarity. In other words, Pro-Category Emotion is 0 until time 10, then it jumps to 0.5.

Look Up Similarity: I assumed S-shaped or logistic growth relation between the potential population that has emotions in favor of violators and perception of similarity, which is shown in Figure 41. It means as Pro-Category Emotion increases, Perception of Similarity also increases. I make this assumption based on social identity theory which emphasizes the importance of social identity and interaction.

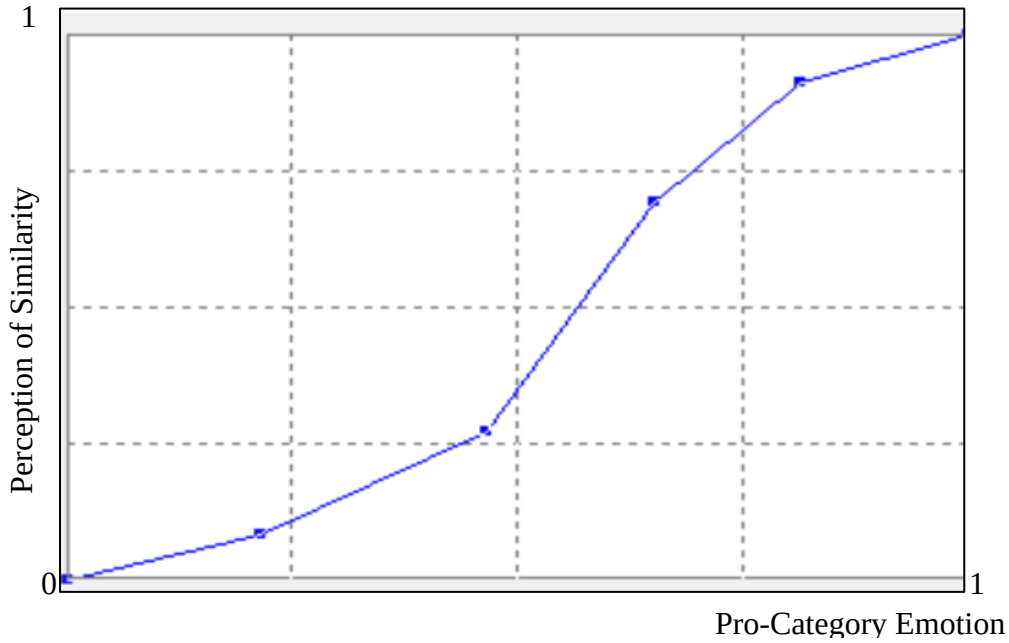

Figure 41. Look Up Similarity

Effect of Group Violating Behaviour: will be discussed in detail in sub model 4.

Look Up New to Old Population Ratio: This shows the relationship between this ratio and personal values. In other words, I assume an S-shaped growth relationship between the increase in new to old norm followers as well as an increase in personal value.

New to Old Population Ratio = New Norm Population/Dominant Norm Population

Personal Value: This variable is a main source of changes between Personal Norm and,

as a result, to Personal Identity. There are variables such as Personal Values, in the simulation model that are intangible, and their scale is unknown. To cope with this problem, I use continuous and dimensionless values between zero and one in which zero and one respectively represent the “lowest” and the “highest” amounts for these intangible variables: Personal Values, Norm, and Identity. It means the minimum amount for those variables are zero and their value cannot exceed one.

Personal Value = SMOOTH (New to Old Population Ratio, AT for Value)

Personal Norm, which is shown in Figure 42., changes because of changes in Personal Values. I define it as:

Personal Norm = SMOOTH (Personal Values, AT for Norm)

Similarly, Personal Identity changes due to changes in Personal Norm. This means the amount of Personal Identity will change by the same amount as Personal Norm through AT for Identity.

Personal Identity = SMOOTH (Personal Norm, AT for Identity)

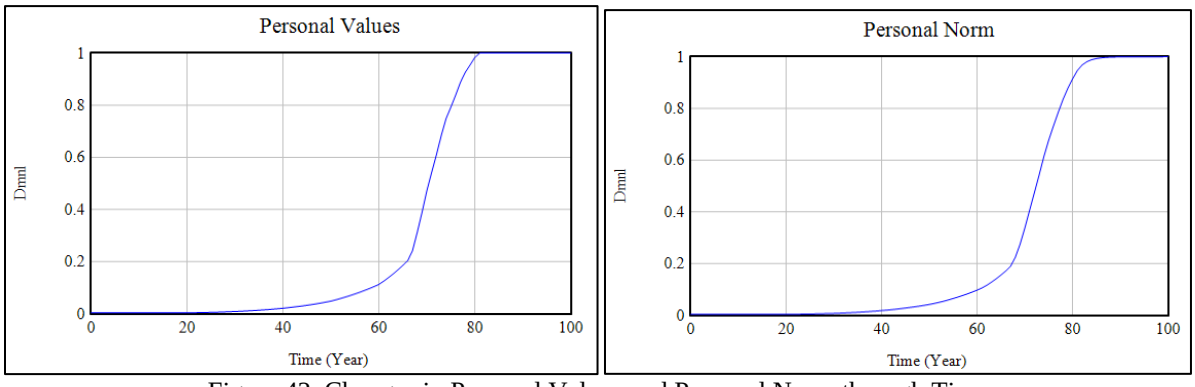

Figure 42. Changes in Personal Values and Personal Norm through Time

At this point, I explain all the factors that affect Perception of Similarity. They are summarized in Table 7. I begin with a discussion of the transfer rate from the Dominant Norm Popluation to the Violaters Group Population.

*Transfer Rate: Effect of Perception of Similarity on Transfer Rate * Dominant Norm Population/AT Time to Transfer*

AT time to transfer is the time needed for all tangible and non-tangible materials to transfer.

Time Delay: *"Time delay is nature's way of keeping everything from happening at once."*[21]

Every real system has time delay; a time lags between when something occurs and when impact of that change is felt. Time delays play a crucial role when a dynamic system is modeled. There exist two types of time delay. One of them is a material delay (conserved or tangible stuff) such as number of people, and the second is a non-conserved delay (intangible or information delay) like the time that is needed to feel anger. I will discuss material delays in this section. Non-conserved delays will be discussed in the next section.

Material Delays: The amount of time it takes for transiting material, such as a car created a factory or a population that goes from one stock to another. The outflow can be calculated as the amount of material in transit divided by the delay. In other words, the longer the time delay, the less the out flow will be. This is represented by the below formula: *Outflow = Material in Transit/Time Delay.* In this model the out flow from Old Norm Population is the transfer rate. The material in transit is Effect of Perception of Similarity on Transfer Rate * Dominant Norm Population and the time delay is defined as AT to Transfer.

[21] This quote is attributed to Albert Einstein and John Archibald Wheeler (but not both at the same time).

Table 7. Summary of Variables and Parameters for Sub-Model 1

Variables	Description	Type	Unit
Dominant/Old Norm Population	People who believe in the old norm	Stock	Person
Transfer Rate	Change in number of people who perceive the similarity	Rate	Person/Year
First Violation	This shows the effect of first people or group of people, who observe that the old norm is harmful and violate it, on pro violation emotion	Auxiliary	Dmnl
"Pro-Category Emotion"	It shows when emotion is in favor of the violators group	Auxiliary	Dmnl
Look Up Similarity	This graphical function shows how an increase in the Pro-Category Emotion causes an increase in Perception of Similarity	Auxiliary	Dmnl
Lookup Group Violating Behaviors on Pro Emotion	This graphical function shows how an increase in group members' violating behavior leads to an increase of emotion in favor of the group	Auxiliary	Dmnl
Personal Value	This stock shows the value change among the population	Auxiliary	Dmnl
Personal Norm	Affected by value, this stock shows the norm change among the population	Auxiliary	Dmnl
Personal Identity	Affected by norm, this stock shows the identity change among the population	Auxiliary	Dmnl
Perception of Similarity	The stock shows the change of perceiving similar interest among population to join the violators	Auxiliary	Dmnl

Sub-Models 2 & 3: "Perception of Dissimilarity" and "New Norm Internalization"

Sub models 2 and 3 will be discussed together because they have a very similar process called stage three information delay. As is clear from the Figure 43. the violators population can learn a new norm and then decide what to do. One possibility is that they define the new norm as an incompatible goal and lose trust in the norm after doing dissimilarity analysis, which result in going back to the old norm. Sub-model 2 addresses this possibility. Sub-model 3 addresses the other option which is that those who adopt the new norm later internalize it.

Information Delays: A kind of the time delay broadly used in modeling human behavior (Sterman, 2000). It conveys the transition time that humans need to process information and change from one mental state into another. This concept can be several step/stage structures in which each stage is shown by a stock variable. Information delays begin with one mental state as an input which transitions through multiple stages. For example, from stage one, learning and assigning the new norm, into stage two, self-stereotyping, and, finally, stage three, internalization of the results in the final mindset as an output. The delay in transitioning from one stage into the next is equal to the adjustment time (AT) divided by the total number of stages, which means transitions happen faster when AT is shorter. Conversely, as the number of stocks increases, the information delay is composed of more stages, and, in consequence, the total delay in changing from the initial mental state into the last one is longer.

Figure 43. depicts a third order information delay structure. That means there are three stages that the initial input must go through until it gets to the last transition, which results in the output. This structure depicts human transitions from stage.1 learning and assigning new norm to stage.2 depersonalization to stage.3 internalization of that norm. As people categorize themselves into a new category, they start learning and assigning the new norm. This results in self-

stereotyping and depersonalization. Finally, after people depersonalize themselves, they start to internalize the norm.

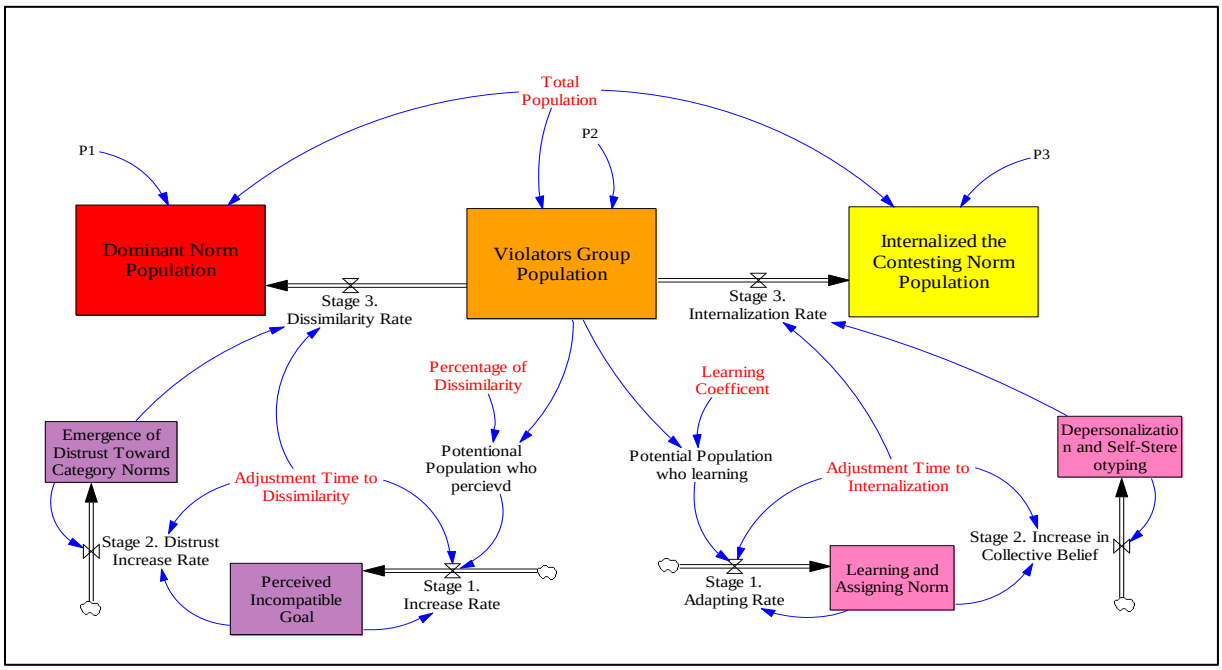

Figure 43. Sub-Model 2 & 3: Perception of Dissimilarity and New Norm Internalization

The left side of Figure 43. shows sub model two. If people who categorize themselves into a new category perceived the new norm as an incompatible goal, they process through the distrust stage and ultimately, by doing dissimilarity focused analysis (the output of the third order delay), they return to the Dominate Norm Population. The right side of the Figure 43. depicts the alternative outcome— when they internalize the norm (the output of the third order delay) and become part of the Contesting Norm Population. The rates of increase at each step of the structure in sub-models two and three follow the below formulas:

$$\textit{Rate of Increase in Stage 1} = (\textit{Input} - \textit{Stage 1 Stock})/(AT/3)$$

$$\textit{Rate of Increase in Stage 2} = (\textit{Stage 1 Stock} - \textit{Stage 2 Stock})/(AT/3)$$

Rate of Increase in Stage 3 = (Stage 2 Stock – Stage 3 Stock)/(AT/3)

In general, the rate can be calculated as an input into whatever affects the rate, which could be a stock or any other auxiliary variable, minus the output, which is always a stock, divided by the time delay—here Adjusted Time to Internalization (AT). And as it is a third order delay it is also divided by 3. The input for each stock is the output of the previous stage and the stocks increase until they achieve an equal level as their input. Thus, for the model I can calculate the delays for each stage as:

"*Stage 1. Adapting Rate" = (Potential Population Learning-Learning and Assigning Norm)/ (AT to Internalization / 3)*

"Stage 2. Increase in Collective Belief" = (Learning and Assigning Norm-"Depersonalization and Self-Stereotyping") / (AT to Internalization / 3)

"Stage 3. Internalization Rate" = ("Depersonalization and Self-Stereotyping"-Internalized the Contesting Norm Population) / (AT to Internalization / 3)

Now I discuss the components of each stage in detail, starting with stage one. The two other stages will follow with the exact same logic.

The input for "Stage 1. Adapting Rate" is Potential Population that learns the new norm.

`Potential Population that Learns the New Norm: This is an auxiliary variable which shows the number of people who are learning the new norm. This variable depends on the Learning Coefficient (LC) and Violators Group Population

*Potential Population that Learns = Learning Coefficient * Violators Group Population*

Learning Coefficient: This parameter is a cultural one. In other words, for democratic and loose cultures the learning coefficient is higher. Usually there is more freedom of speech and social media are more available in comparison to non-democratic cultures where these are

sometimes filtered. This parameter affects the availability of resources to learn a new norm. Thus, I assume two different LC across cultures (70-30). I do not assign 100 percent even in the democratic culture because sometimes some people might violate the old norm. However, they may not like the new group norm nor the old norm. This group remains violators, but do not join the new norm population. As Hooks (1990) mentioned, one of the main obstacles for a successful norm transition is the lack of a shared collective identity which has its root in a shared group norm. I show this obstacle by two means. First, not all the population learns the norm (LC) and secondly there is a likelihood that some of them perceive incompatible goal.

In the simulation model, there is a similar information delay in sub-model 2. The structure and logic behind it is just as similar as sub-model 3 and to avoid redundancy I only write the equation Model 2, which can be formulated as below:

"Stage 1. Increase Rate" = (Potential Population that Perceived-Perceived Incompatible Goal)/ (AT to Dissimilarity / 3)

"Stage 2. Distrust Increase Rate" = (Perceived Incompatible Goal-Emergence of Distrust Toward Category Norms) / (AT to Dissimilarity / 3)

"Stage 3. Dissimilarity Rate" = Emergence of Distrust Toward Category Norms/ (AT to Dissimilarity / 3)

The input for "Stage 1. Increase Rate" is Potential Population that Perceived Incompatible Goal.

Potential Population that Perceived Incompatible Goal: This is an auxiliary variable which shows the number of people who realize their interests and goals are different from the group. This variable depends on the potential population that perceived dissimilarity with the group norm and goals.

*Potential Population that Perceived Incompatible Goal = Violators Group Population * Percentage of Dissimilarity*

Percentage of Dissimilarity: This is another constant parameter which happens due to perceiving different interests and goals from the group norm and finding that the old norm is more beneficial. Table 8. shows the summary of all variables and parameters for this section.

Table 8. Summary of Variables and Parameters for Sub-Models 2 & 3

Variables	Description	Type	Unit
"Depersonalization and Self-Stereotyping"	This stock shows population that is depersonalized.	Stock	Person
Learning and Assigning Norm	This stock shows population that is learning and assigning a new norm.	Stock	Person
Perceived Incompatible Goal	Population that realizes that they have a different goal and interest than the group norm	Stock	Person
Emergence of Distrust Toward Category Norms	Having different goal results in emergence of distrust among group members	Stock	Person
Violators Group Population	Population that disobeys a dominant norm	Stock	Person
Internalized the Contesting Norm Population	Population that internalizes the norm	Stock	Person
New Norm Population	Population that accepts and behaves based on the new norm	Stock	Person
“Stage 1. Adapting Rate”	Change in number of populations that learn and assign the group norm	Rate	Person/Year

Table 8. Continued

Variables	Description	Type	Unit
“Stage 1. Increase Rate”	Change in number of populations that perceive their interests dissimilar to other members	Rate	Person/Year
"Stage 2. Increase in Collective Belief"	Change in number of populations that believe in the group norm	Rate	Person/Year
“Stage 2. Distrust Increase Rate”	Change in number of populations that lose their trust in the group norm	Rate	Person/Year
“Stage 3. Internalization Rate”	Change in the number of populations that internalize the norm through time	Rate	Person/Year
“Stage 3. Dissimilarity Rate"	Change in number of populations that perceive the dissimilarity	Rate	Person/Year
Potential Population Learning the Norm	Those part of the violators population that learn the norm	Auxiliary	Person
Potential Population that Perceived Incompatible Goal	Those parts of the violators population that realize their goals and interests are different from the groups	Auxiliary	Person
Percentage of Dissimilarity	Percent of violators that, after learning a group norm, perceive dissimilarity between their interests and group interests	Constant	Person
Learning Coefficient	Percent of violators that is able and have access to learn a group norm	Constant	Person

Sub-Model 4: "Emergence of New Norm Sub Model"

This section shows model transition from the population that internalizes the new norm into a population that behaves based on the new norm. Figure 44. depicts this sub-model. As discussed in the conceptual model, people, after internalizing a norm, start practicing that norm and after a while the norm becomes a normative behavior of a society. Thus, group violating behavior and its effect are the main elements which affect this transition.

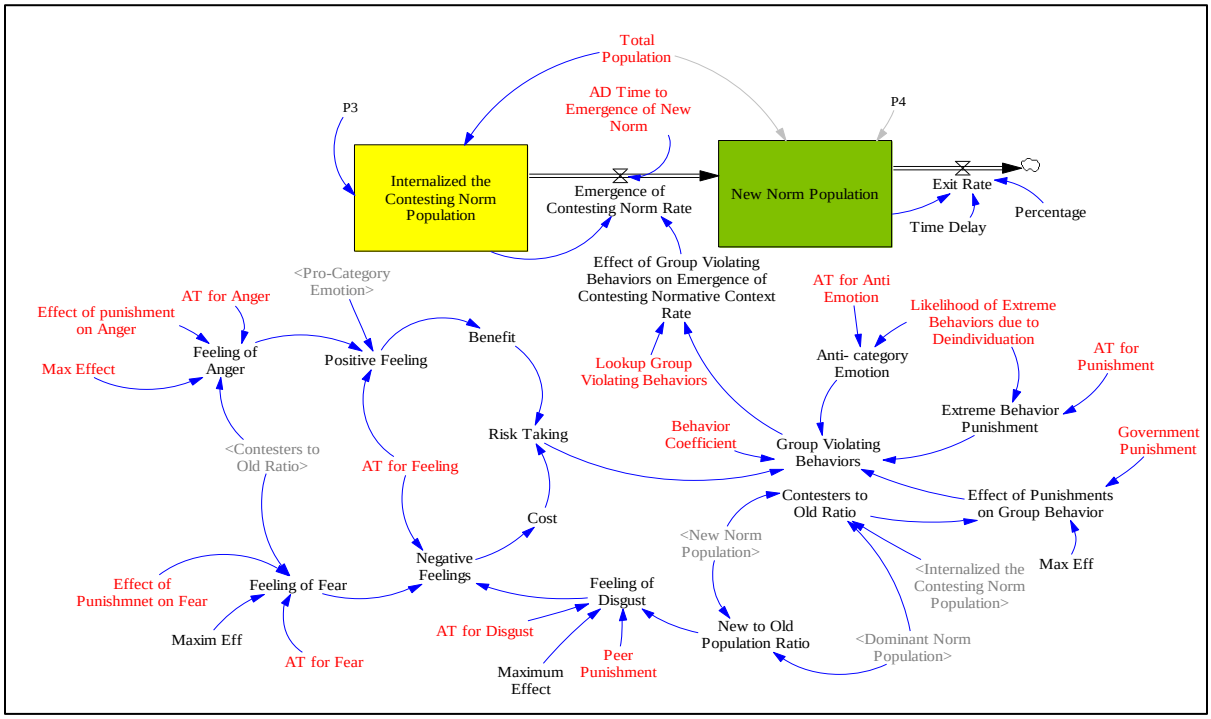

Figure 44. Emergence of a New Norm and Exit Sub-Models

Group Violating Behavior is an auxiliary variable which itself depends on several other variables such as Risk Taking, Effect of Government Punishment, Effect of Peer Punishment, Anti-Category Emotion, Extreme Behavior Punishment, and Effect of Punishment on Group Behavior. In what follows I will discuss each of these variables in detail.

*Group Violating Behaviors = ((Risk Taking) / (Extreme Behavior Punishment * "Anti- Category Emotion" * Effect of Punishments on Group Behavior)) * Behavior Coefficient*

Risk Taking This variable has a positive effect on group violating behavior through risky shift. Its rate depends on two factors: cost and benefit.

Benefit > Cost.

Risk Taking = MIN (Benefit / Cost, 1)

Cost These are Negative Feelings, include the feeling of disgust and/or shame from peers and the feeling of fear of government punishment, which could be fear of being arrested, losing a job, or economic loss. These are the two main associated costs that reduce risk taking.

Cost = Negative Feelings

Negative Feelings = SMOOTH (Effect of Fear on Negative Feeling + Effect of Disgust on Negative Feelings, AT for Feeling)

To show the effect of feelings of fear on Negative Feelings, I use a look-up function which shows the relationship between the population that violates the norm and government punishment.

Effect of Fear on Negative Feeling = SMOOTH (Look Up Fear (Contesters to Old Ratio), AT for Fear)

Effect of Government Punishment: This look-up function shows the punishment that is executed by the government to suppress norm violators. It is the ratio of new to old norm populations. I define it this way and assume that governments gain their power from their supporters' populations. Therefore, as the number of their supporters/followers decreases compared to the number of contesters in the population, they have less power to punish norm violators. This function has been built on a historical reference mode of protest. The look up for government punishment explains that when the number of violators is insignificant, the

government has tolerance and does not really show any serious reaction. But, as the number goes up, the government punishment increases until the point when the majority of the population contests. Government punishment ceases when the contested norm is acknowledged.

Effect of Peer Punishment: To show how peer pressure affects violators, I define it as a look up. This function shows the feeling of disgust that norm violators bear among their community, which is the number of new norm adaptors who are disobedient and lose their reputation. This look-up function, shown in Figure 45. is built based on the existing reference mode for peer-pressure sanctions in the literature (Helbing, Yu, Opp, & Rauhut, 2014). That means the peer-pressure punishment is at the highest level when the majority of the peers do not accept the norm. It then decreases since the number of norm adopters (peers) increases through time.

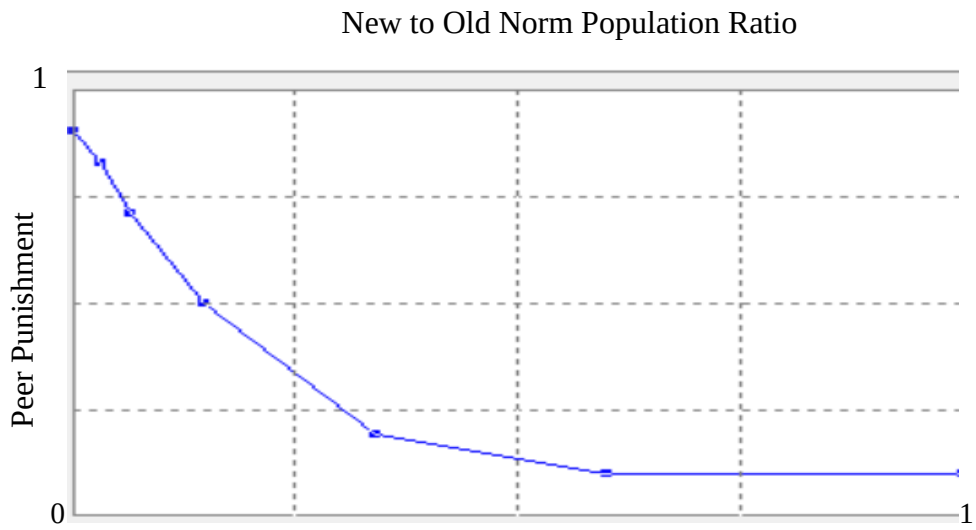

Figure 45. Look-Up Peer Punishment

Feeling of Disgust, due to peer punishment, has a direct relationship with Negative Feelings, which in turn increases the cost of Risk Taking.

*Feeling of Disgust = SMOOTH (Peer Punishment (New to Old Population Ratio) * Maximum Effect, AT for Disgust)*

Benefit: This is composed of Positive Feelings which increase Risk Taking, such as feelings of anger due to unjustified government punishment of violators. In other words, when the government punishes norm violators, others feel angry because they perceive that punishment as illegitimate. This results in angriness and more risk taking. An example of this was the "Inn Riot" protest which occurred during the LGBTQ movement when government punishment triggered more anger and more norm violations (Mongiello, 2016). Another variable which affects benefit is Pro-Category Emotion. This occurs when people who observe violators perceive a similar interest with them. An example is when the "Girl of Enghelab Street," acting as a first violator, unveiled her Hijab. Many after her have done the same because they pursue the same interest; indeed, they admire her bravery.

Benefit = Positive Feeling

*Positive Feeling = SMOOTH3I ("Pro-Category Emotion" * Effect of Anger on Positive Feeling, AT for Feeling, 0.1)*

Anti-Category Emotion: In all collective actions, there is a likelihood that group members will show extreme behavior. I define it as a likelihood because it might or might not happen. But when it happens, it will cause an emergence of Anti-Category Emotion and, in consequence, a decline in the Group Violating Behavior. An example of this is when protestors begin to riot and break into storefronts, like what recently occurred in Chicago when a Black Lives Matter protest became violent.

"Anti- Category Emotion" = SMOOTH (Likelihood of Extreme Behaviors due to Deindividuation, AT for Anti Emotion)

Extreme Behavior Punishment: Governments usually execute specific forms of punishment as needed, which I called Extreme Behavior Punishment. This punishment emerges when violators show extreme behavior and clearly it decreases the Group Violating Behavior.

*Extreme Behavior Punishment = SMOOTH (Likelihood of Extreme Behaviors * 1.2, AT for Punishment)*

Effect of Punishment on Group Behavior: Government punishment not only causes feelings of fear, which affect Risk Taking, but, indeed, when people taking the risk violate a norm, government executive branches suppress those who take the risk and practice the new norm. This has a negative effect on Group Violating Behavior.

With all of the varaibles defined, I create the following equation for the Emergence of Contesting Normative Context Rate.

*Emergence of Contesting Normative Context Rate = MIN (Internalized the Contesting Norm Population, Internalized the Contesting Norm Population * Effect of Group Violating Behaviors on Emergence of Contesting Normative Context Rate) / AT Time to Emergence of New Norm*

Sub Model 5: "Exit from the New Norm"

The final sub model, which is shown in Figure 44. shows that some people, after a while represented by a time delay, change their minds and left the New Norm Population. This can occur because the new norm no longer fulfills their interests and/or another norm fits their interests better. Thus, a percentage of the new norm population that encounters this phenomenon through time will exit that population.[22]

*Exit Rate = (New Norm Population * Percentage) / Time Delay*

[22] In this study I do not focus on this process as I am mainly interested in how two competing norms can replace each other. Thus, I only depict this part as a simple sub model in which a new norm population could change their minds and go to other stocks such as violators stock or another competing norm. This is one of the limitations of this study. Future works might study how several competing norms shape the behavior of a society.

Percentage is a constant parameter. Table 9. shows a summary of all the variables in sub models four and five.

Table 9. Summary of Variables and Parameters for Sub-Models 4 & 5

Variables	Description	Type	Unit
New Norm Population	Population that accepts and behaves based on the new norm	Stock	Person
Emergence of Contesting Normative Context Rate	Change in number of populations that behave based on the new norm	Flow	Person/Year
Group Violating Behaviors	The magnitude in Group Violating Behavior	Auxiliary	Dmnl
Extreme Behavior Punishment	Punishment executed by government to suppress extreme behavior during collective action	Auxiliary	Dmnl
Likelihood of Extreme Behaviors	Likelihood of unacceptable behavior such as breaking public goods	Auxiliary	Dmnl
Risk Taking	Probability of population risk taking calculation based on their cost and benefit	Auxiliary	Dmnl
Cost	Shows the violation loss	Auxiliary	Dmnl
Benefit	Shows the violation gain	Auxiliary	Dmnl
Positive Feelings	Feelings that increase the benefit of risk taking	Auxiliary	Dmnl
Negative Feelings	Feelings that increase the cost of risk taking	Auxiliary	Dmnl

Table 6. Continued

Variables	Description	Type	Unit
"Anti-Category Emotion"	The emotion which has its root in extreme behavior	Auxiliary	Dmnl
Effect of Punishments on Group Behavior	Indicates how punishment causes Group Violating Behavior to decline	Auxiliary	Dmnl
Look Up Punishment	The relationship between Government Punishment and violators population	Look up	Dmnl
Look-Up Anger	Depicts the relationship between punishment and angriness	Look up	Dmnl
Look-Up Fear	Depicts the relationship between punishment and feeling of fear	Look up	Dmnl
Look-Up Group Violating Behaviors	The effect of Group Violating Behavior on transferring from internalize to new norm	Look Up	dmnl
Exit Rate	The rate of population change from new norm to other norms	Flow	Person/Year

Model Verification and Validation

Model builders accumulate confidence about a model's usefulness while building the model and observing expected behavior. However, model validation is not limited to the model constructors. It extends to any person who uses the model (Senge & Forrester, 1980). Senge and Forrester (1980) discuss that to gain common confidence about model usefulness in system dynamics, the model's structure and behavior need to be tested. They describe several different tests and emphasize that based on the model purpose, model builders must select among the

available tests to evaluate the soundness of their model. Similarly, prior to conducting experiments, I developed confidence that the simulation model is useful for its intended purpose through a process of validation. I tested both the structure and behavior of the system. To do so I perform the following tests.

Model's Structure Test

Among the tests available to test the structure of a model, I selected the structure-verification test, the dimensional-consistency test, and the boundary-adequacy test. To do model structure verification, I compared it against the conceptual model. This model is a theoretical one, and all variables in the simulation model and their relationships, which are shown as causal loops, are derived from existing norm theories (see Chapter 4). No missing variables or CLDs were found while comparing the conceptual model against the simulation model. Dimensional consistency and equation formulation were confirmed, and the model runs without error. The boundary-adequacy test checks for the structure boundary and whether the existing structure is the most relevant and or includes all the relevant structures to satisfy the purpose of the model. I checked with a subject matter expert in the field and the model passed this test.

Model's Behavior Test

To test the model's behavior, I selected the behavior-reproduction test, the extreme condition test, and the sensitivity test. One common way to validate a simulation model is to compare its behavior against the real system's expected behavior. This study derived expected behavior from a well-known study by Randers (1973). He shows that the new normative behavior adaptation occurs as shown in the left side of Figure 46. My model produces output that is similar to what Randers produces in his study, which is shown in the right side of Figure 46.

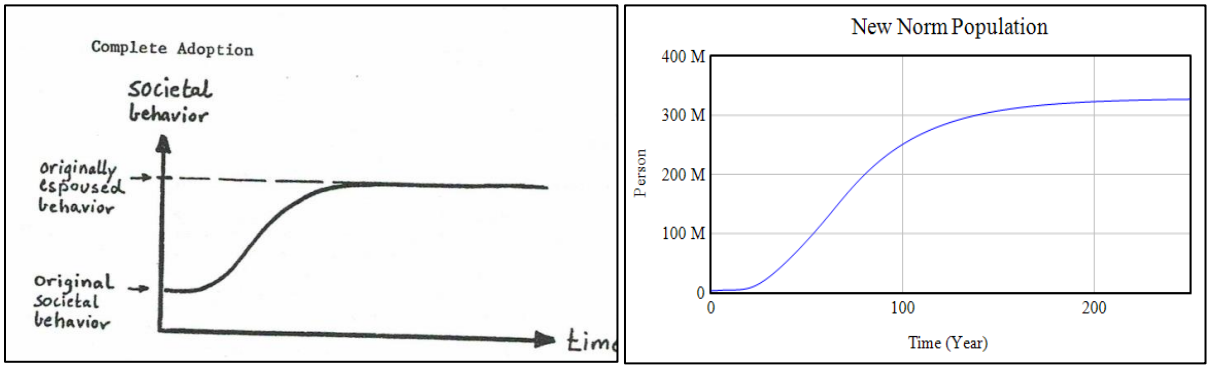

Figure 46. Expected Real System Behavior vs. Model's Behavior

The second test that I did to check the validity of the system behavior is the extreme conditioning test. To do so, I test how the system behaves if one sort of population is zero in comparison with the base run. The results are shown in Figure 47.

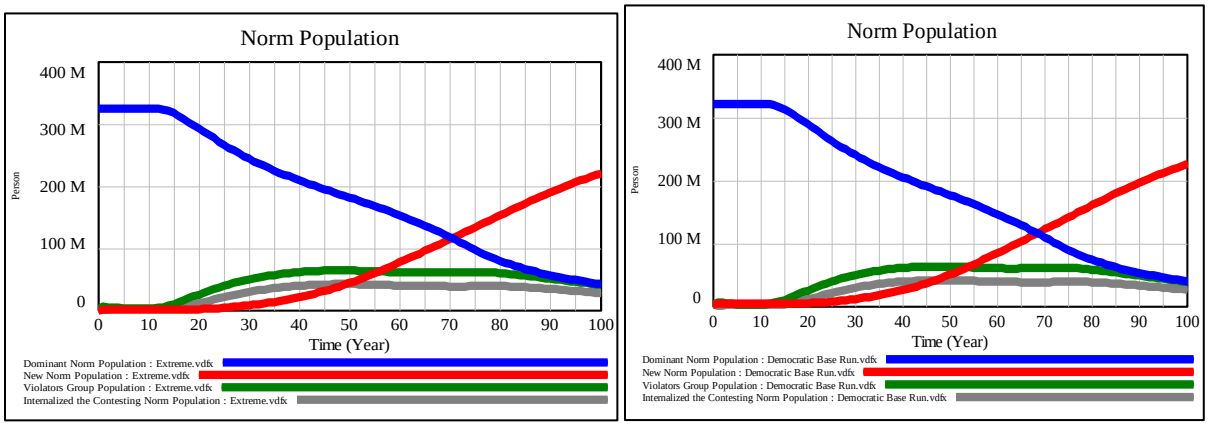

Figure 47. Extreme Condition Testing with One Sort of Population Equal to Zero

I also tested the model behavior to see how it behaves if the initial violation does not make any change in the society and has no effect on Pro-Category Emotion. I expected nothing

would happen to the system, as I assume the initial violation is the intervening event that moves the system forward. The result is shown in Figure 48 below.

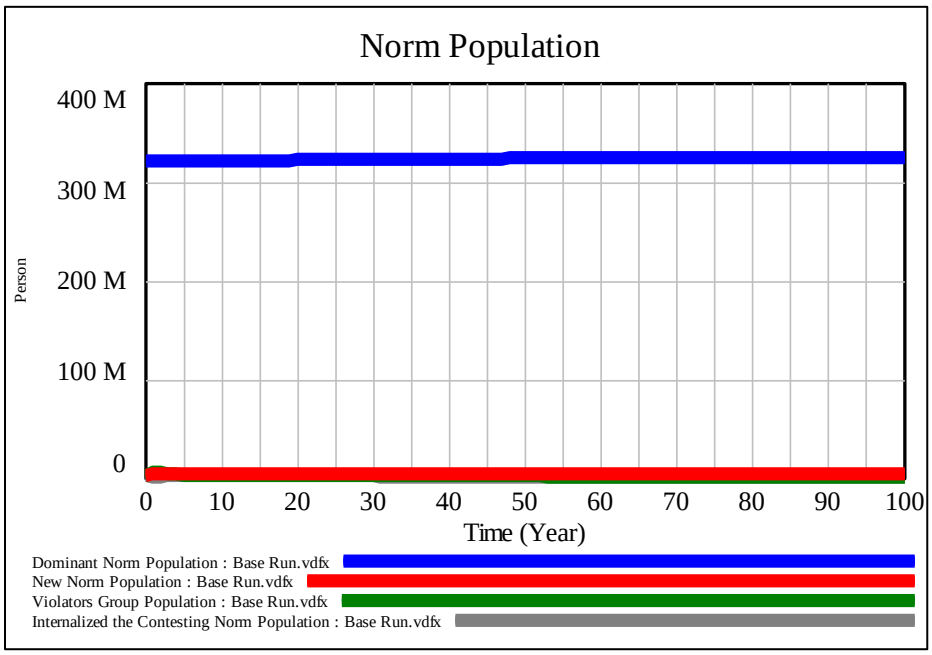

Figure 48. Model Behavior When Initial Violation Makes no Change

The results for extreme testing supports the validity of the model. The model behaves as expected and it does not break apart.

Finally, I did a sensivity test for all exogenious variables and this test also supported the validity of the model. After consulting with a subject matter expert I chose 100 years as a threshold for observing the behavior. Table 10. shows the summary of those tests, while Figures 49, 50, and 51 provide the results for respective variables.

Table 10. Summary of Sensitivity Tests

Variable	Number of Runs	Range	Results
Learning Coefficient	200 Random Uniform	0.3-0.8	Figure 5.12
Percentage of Dissimilarity	200 Random Uniform	0.02-0.2	Figure 5.13
Likelihood of Extreme Behavior	200 Random Uniform	0.05-0.8	Figure 5.14

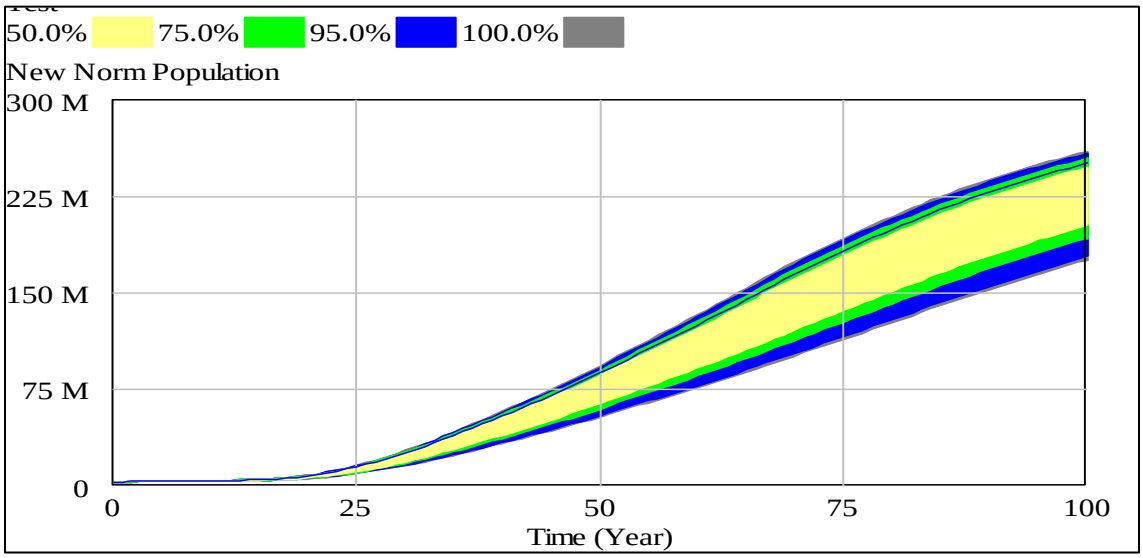

Figure 49. Sensitivity Test for Learning Coefficient on New Norm Population

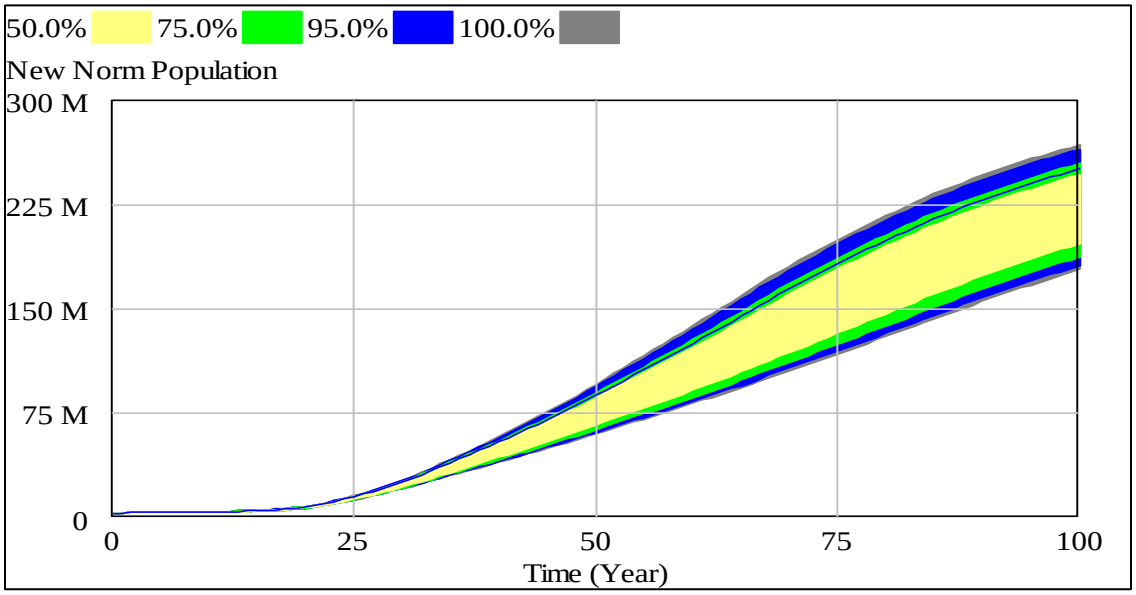

Figure 50. Sensitivity Test for Percentage of Dissimilarity on New Norm Population

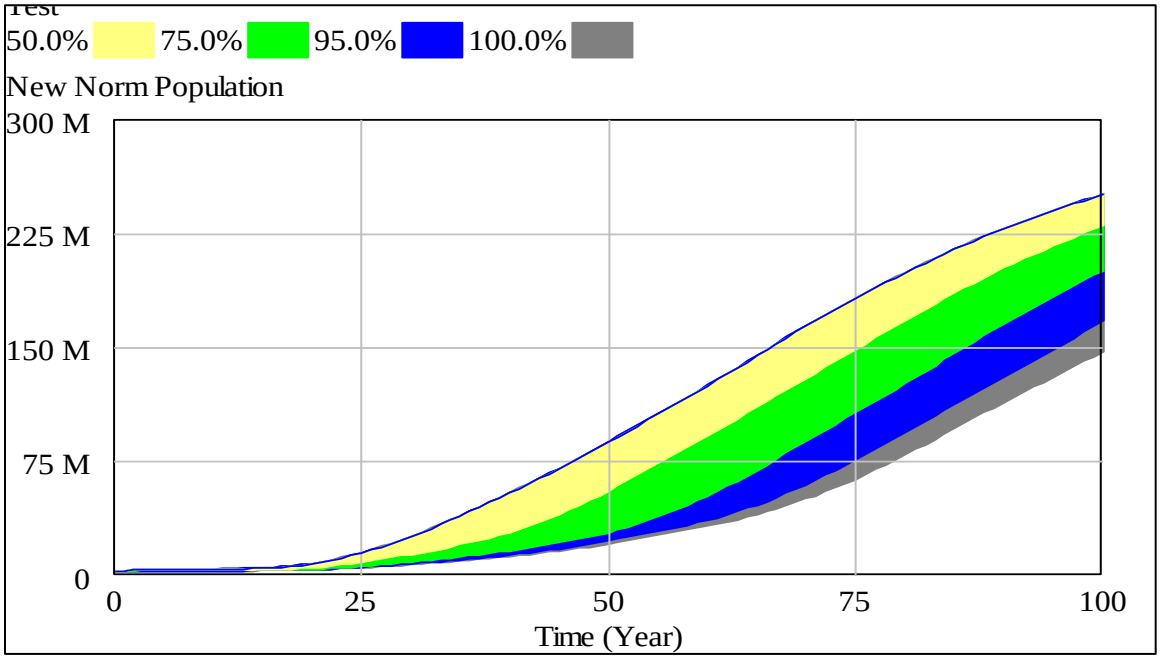

Figure 51.Sensitivity Test for Likelihood of Extreme Behavior on New Norm Population

Conclusion

In this chapter, first I told the story of the model to provide the general overview of the model. After that, I divided the model into five sub models and discussed each of them in detail with explanations for all related variables and formulations. Finally, I describe several tests I conducted to verify that the model functions as conceptualized and ensure that the model is valid both structurally and behaviorally. Now that I have confidence in the model, I can use it. In the following chapter, I will discuss the results from running the model and analyze the data produced.

RESULTS AND DISCUSSION

Introduction

In the previous chapter, I reported the simulation model's structure and some sensitivity analyses. This chapter disscusses the simulation's experiments and some possible scenarios under which the contesting norm may weaken or change the old norm.

When we talk about norms in a society, we usually expect them to be beneficial for the society and discourage violence and/or injustice. But we are witnesses that there are harmful and restrictive norms which are enforced by governments like xenophobia, religious and ethnic discrimination, and many others that need to be challenged and changed. Clearly, the government is not inclined to change these laws. Most states accept and respect other states' sovereignty and follow a non-intervention foreign policy. Therefore, it is not possible for them to directly challenge another sovereign state's law. Thus, it is really on residents of a county to challenge and ideally change restrictive norms. There are examples of successful citizens contestations. For example, LGBTQ rights in most western countries, abortion laws in Canada, Ireland, and elsewhere, and refugees' higher education in Iran. In some instances, these changed norms have in turn clearly impacted foreign policy, as with the increased emphasis of the state department on protecting LGBTQ rights globally. These examples support scholars' claim that an actor's level of power is not the only determining factor to change a norm and under suitable structural conditions, even powerless actors can trigger change in the harmful norm (Deitelhoff & Zimmermann, 2019). These norm changes ultimately reshape not only national politics but, also, influence international politics. However, the conditions and the mechanism under which powerless actors' contestations results in change or challenge of harmful norm have been

insufficiently studied. As discussed previously, this study offers a model through which potential mechanisms can be analyzed to address the question of when these conditions exist. That answer will contribute to norm contestation theories.

This chapter examines a series of experiments that build from a baseline model with assumptions intended to model the emergence of a contesting norm, in both democratic and non-democratic cultures. To analyze the results of each experiment I use path a dependence approach, which I explain prior to discussing the model setup. After that, I first provide one potential explanation for the main research question: under which conditions contesting of a restrictive legal norm results in emergence of a new norm in democratic and non-democratic cultures. To do so I explain cultural factors which are different in democratic and non democratic societies in detail and modify the model based on those factors. Next, I examine the consequences of the study assumptions regarding anger as a response to attempted suppression of deviations from the norm. Then, I investigate the impact of showing extreme behavior during collective actions and the consequances. After that, I test the importance of norm-antipreneurer[23] to promote the old norm and keep the status quo in this dynamic process of transferring from an old norm to a new norm. In the last set of tests, I examine whether contestation of an old norm might end up with different or similar results when there exists less pressure and punishment. At the end I summarize this chapter with concluding remarks.

Path Dependence as an Approach to Analyzing the Results and Discussion

Path dependence has important implications for social and political science (Goldstone, 1998; Isaac, Street, & Knapp, 1994; Kimeldorf, 1988; Lipset & Rokkan, 1967; Lipset, Trow, & Coleman, 1956; Mahoney, 2000). What needs to be elaborated here is “reactive path

[23] Those who promote the old norm.

dependence," which is the case of this theoretical model. This type of path dependence is composed of several connected events in which each event or step depends on its antecedent event and itself is a cause for a next event. In reactive path dependence the final event is the particular outcome that researchers wish to investigate. Thus, the overall sequences can be considered as a chain to reach this outcome. Early events are very important and they trigger the development and motion in the whole system. They are so important that Pierson (2000) believes "initial disturbances are crucial not because they generate positive feedback, but because they trigger a powerful response ... action and reaction move the system in a new direction." One famous historical example of that initial event or initial disturbance is Rosa Parks' violation of segregation laws when she refused to vacate her seat on the public bus. It is important to mention that those initial events, which are also called critical junctures, move the system, are contingent, and often happen at an intersection of two or more independent sequences of events. They are considered contingent because it is neither predictable at which point of time those two independent sequences need to intersect, nor is it possible to anticipate what specific initial event will be shaped due to their intersection (Aminzade, 1992; Zuckerman, 1997). Back to the example, Rosa Parks would violate the law when there was not enough support for her action in the society to push the violation forward. Or, in another case, as a matter of having agency, Rosa Parks might choose to not violate and vacate the seat, while there was enough support for the violation of segregation laws. Thus, that initial event or critical juncture is contingent. To clarify, I borrow Figure 52 and Figure 53 from Mahoney's (2000) work.

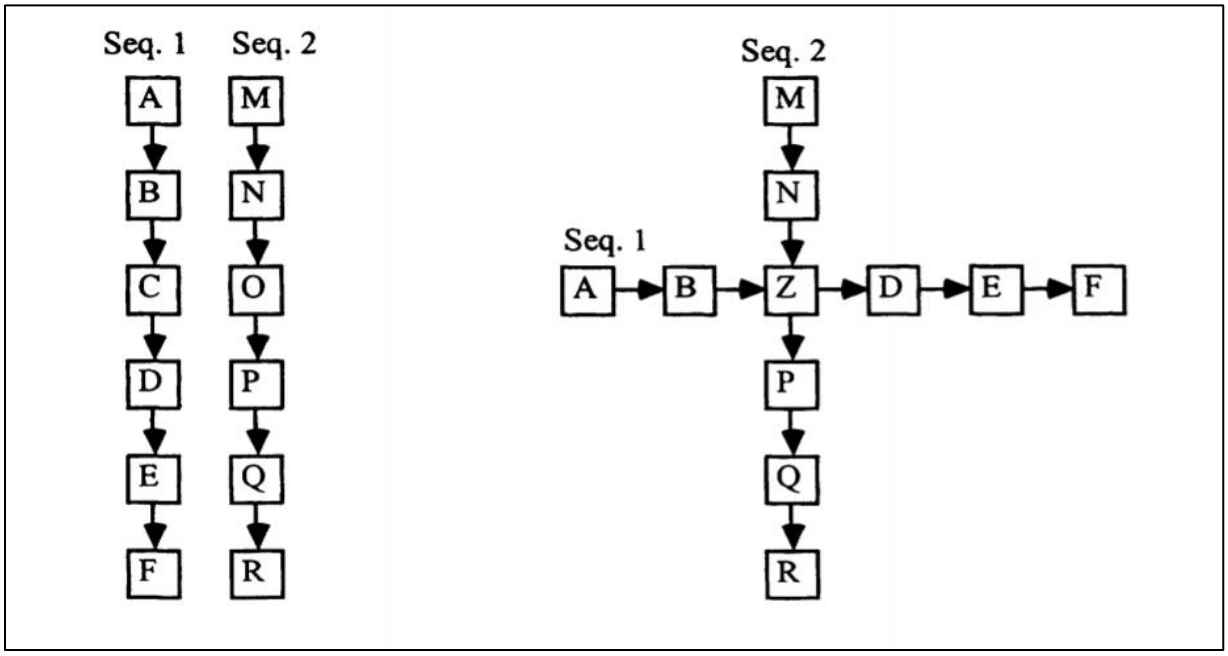

Figure 52. Two Independent Sequences with No Enduring Critical Juncture

Mahoney (2000) depicts this causal process in Figure 52. to clarify the difference between two independent events. On the left side are two independent events which do not have any intersection. On the right side, the two independent events intersect and that generates a critical juncture which has no enduring consequences. Thus, each sequence continues its previous logic and pattern. Figure 52. shows two independent events that intersect and then generate the critical juncture which has an enduring consequence.

As shown in Figure 52. when there is no intersection between two independent sequences, each would continue its casual process independently. Or they may intersect, but the overall sequence is only disturbed temporarily and then returns to its logic. Thus, the critical juncture point has no lasting consequences. The intersection must generate a critical juncture event with enduring consequence, as shown in Figure 53. to be considered and studied for path dependence.

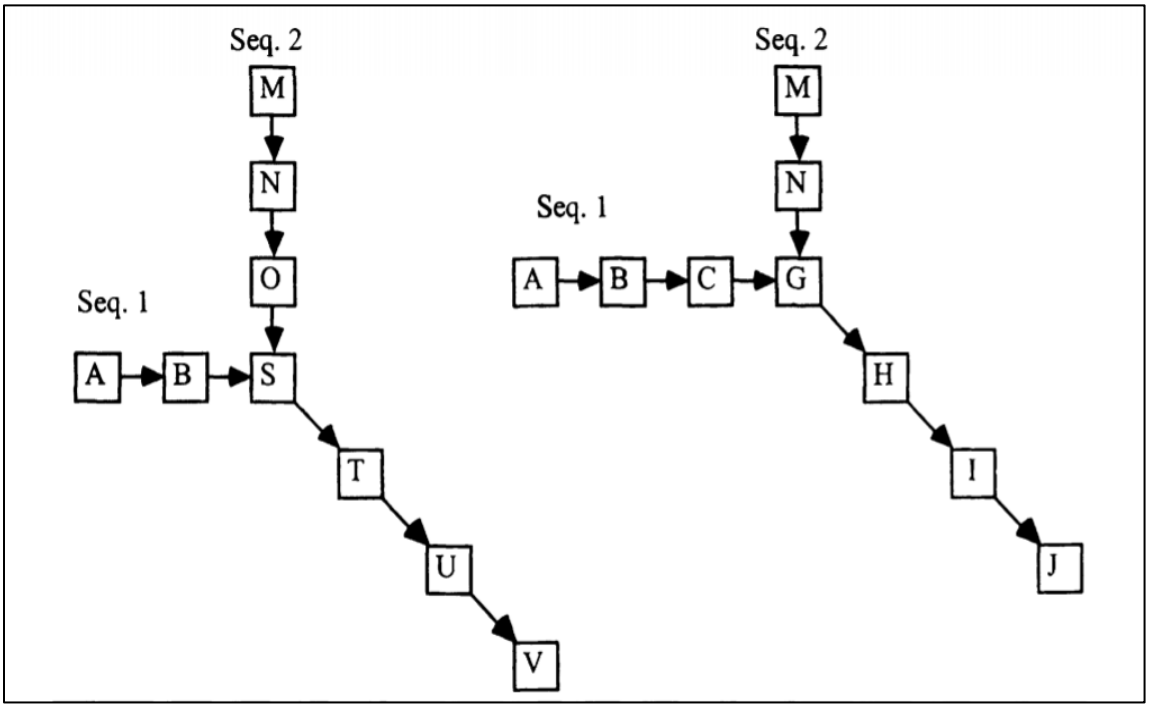

Figure 53. Two Independent Sequences with an Enduring Critical Juncture

Both examples in Figure 53. show the path dependence process but the important feature here is the difference between the temporal points: when the intersection happens, the results change significantly. As Mahoney (2000) states, “it matters a great deal if two sequences collide at an earlier or later point in their trajectories.” I will go back to this very important feature of path dependence later in the chapter and discuss how the intersection at different temporal points changes the results.

Even when the intersection generates a critical juncture which moves the system in a new direction, it is still hard to predict the final events directly and definitively. Rather, several connecting and intervening events need to be investigated between the initial event and final event to be able to explain the ultimate outcome. The intervening events are the main focus in path dependence. Analyzing each step not only provides the researchers the narrative of the

process but it also gives them the opportunity to study counterfactual situations. What if that intervening event does not happen?

Going back to our study, there are two independent sequences of events. Their intersection generates the first violation as an initial event.

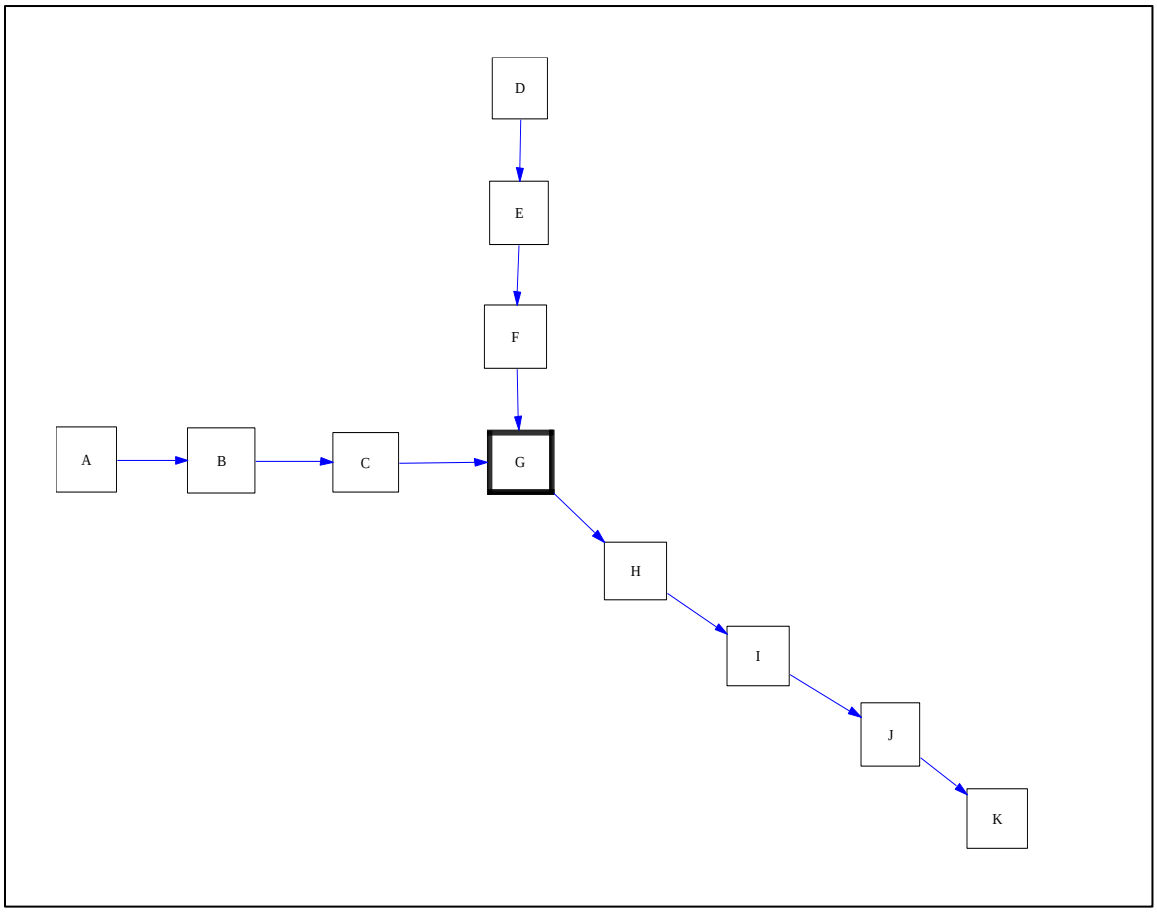

Figure 54. Possible Path Dependence Map for New Norm Emergence

Figure 54. illustrates this situation where the events are defined as follows:

A. Government Restrictive Law

B. Systematic Disparities

C. People Have Shared Grievance

D. Civil Societies' Emergence

E. Education Through Civil Societies

F. Forming Shared Intersubjective Understanding that the old norm is not a good norm or there exists a better norm to be a substitute

G. First Violation

H. Violators Group Formation

I. Internalization of the New Norm

J. Group Violating Behavior

K. Emergence of a New Norm

Thus, to change a norm in a society there is a need for several factors to work together to get rid of the old norm. I already talked about human subjectivity and its importance in this study. In fact, this study is based upon the claim that individuals in the community have agency and can evaluate and reason about the norm. Thus, while there exists a group of people in the society that are the old norm's true believers, there are also some individuals who reject that norm totally.

The path that begins with A represents a government discriminatory law which results in the shared feeling of grievance among a group in a society. The path that begins with D illustrates when a civil society plays a major role in the process of educating people and/or changing their perception about what is right or wrong (Arendt, 1960; Richardson, 2020). In other words, civil society tries to weaken the harmful norm and bring people to a shared intersubjective understanding that the old norm is not good. Finally, it is necessary for these two events to intersect at the appropriate temporal point to shape the initial violation or critical

juncture. For this study, that event is the norm contestation event, which is shown as event G, and without that the two independent events might continue on their own paths. This contestation is contingent and depends on human subjectivity and agency. Thus, it might change, weaken, or make no change in the old norm. If the contestation happens at the appropriate time, *when an adequate amount of people in the society come to the shared intersubjective understanding about the old norm and shared feeling of grievance*, we could be optimistic that initial contestation will move the system in the way that changes the old norm. However, as mentioned earlier, that is not a definite outcome. There are other intervening events that play a significant role. But for sure we can say that if that contestation does not happen at the appropriate time, the result will be different. In other words, the initial contestation can only challenge the old norm, not cause it to change it.

In this study, I model a society in which those two independent sequences that intersect at some temporal point and create the initial violation. To show how that violation changes the direction of the system, I assume the initial norm violation triggers a reaction in the society which I represent in my model with the variable Pro-Category Emotion. That results in a perception of similarity causing the formation of a violating group in the society. Scholars believe that individuals' feelings and emotions both create and maintain that shared intersubjective understanding among a group of deprived people (Ron Aminzade & McAdam, 2001; Snow & Benford, 1992; Snow, Rochford Jr, Worden, & Benford, 1986). In other words, shared feelings of grievance among people leads to a shared understanding. I show this shared intersubjective understanding in the society by the change in the Pro-Category Emotion value due to the first violation. For this study I assume the first violation increases the Pro-Category Emotion by 0.5 among people in the society (variable range is zero to one). This means that the

old norm has an average strength in the society. As is discussed earlier, predicting the temporal point is not possible. Usually, civil societies use that initial contestation as an intervention to trigger people in the society and activate their shared emotion based on shared grievance. This may only weaken the norm, but sometimes it will actually change the norm.

For this study, I am not going to elaborate on the two independent sequences as there is a great deal of literature on civil societies and their role in education and on how discriminatory law causes systematic disparities and shared feelings of grievance. But my model begins with the first violation, which is the initial event or critical juncture. The rest of the chapter discusses the process I used with the model and the results.

Simulation Model Set Up for Democratic-Loose and Non-Democratic-Tight Culture

In the literature review section, I explained the difference between these two cultures in detail. Based on that discussion, I made some assumptions about the impact these cultures have on certain variables. I discuss these variables below, and then Table 11. summarizes the initial value (democratic and loose culture) and the adjustment made for non-democratic and tight cultures.

Learning Coefficient In democratic and loose cultures, there are more resources available to educate people, and both people and social media are accessible and relatively free. Indeed, there exists less government sanctioning on educational content in those societies. As a result, the rate of learning about potential new norms is higher in a democratic culture compared to a non-democratic and tight culture (Arnett, 1995; Gelfand, Nishii, & Raver, 2006; Sussman & Karlekar, 2002). In particular, the coefficient for learning is 70 percent in the democratic culture model runs, and 30 percent in the non-democratic ones.

Peer Punishment Peer pressure is represented by the variable Peer Punishment. It is one of the main punishments in enforcing a norm. Avoiding a norm results in feeling pressure from peers. The fear of being abandoned or the feeling of disgust from your social group is an obstacle for norm violators and for the transition to a new norm in general. However, the effect of that pressure is not the same in a democratic culture, which is more individualistic compared with non-democratic societies, where the culture is more collectivist. Peer punishment has more of an effect in tight societies. Obviously, the distinction is a bit less critical between democratic and non-democratic cultures than it is between individualistic and collectivist or communitarian cultures, but the two tend to go together to some degree (Henrich, Heine, & Norenzayan, 2010; Hofstede, 2001; Rucker, Polifroni, Tetlock, & Scott, 2004). In the model, Peer-Punishment is set at 0.6 for the democratic and loose culture runs and 0.9 for the non-democratic and tight culture runs.

Government Punishment As discussed earlier, punishment is the main mechanism used to enforce a norm and any violation of norm resulted in government punishment to some degree. If you smoke in a closed place or throw trash in the street in Singapore, the police might warn you the first time and then fine you for subsequent violations. The same behavior in a country where the government exercises less control may result in just a warning. In this model, there exists a similar situation. Norm contesters will get punished, but the government in non-democratic and tight cultures is expected to impose more severe and/or frequent punishment (Arnett, 1995; Gelfand et al., 2006). Therefore, I consider that government punishment to have a more restrictive effect on violations in non-democratic and tight cultures. Specifically, in the model runs, Government Punishment is set at 0.6. This represents the situation in democratic and loose

cultures. When the model is run to represent non-democratic and tight cultures the value is set to 0.9.

Table 11. Democratic vs Non-democratic Cultural Parameters

Parameter	Initial Value	Non-Democratic Culture
Percentage of Dissimilarity	5%	5%
Learning Coefficient	**70%**	**30%**
Likelihood of Extreme Behaviors	0.1	0.1
Effect of First Violation on Pro-Category Emotion	0.5	0.5
Peer Punishment	**0.6**	**0.9**
Government Punishment	**0.5**	**0.9**

Exercising the Simulation Model

In this section, I describe how a system dynamic model allows us to simulate and evaluate the effect of different variables and conditions for new norm emergence. I begin this section with a discussion of base run behavior for democratic culture and then non-democratic culture.

Base Run Behavior for Democratic and Loose Culture

To address the main questions of this study, I begin with a simulation run which includes initial conditions to determine the conditions that result in emergence of a new norm under democratic and then non-democratic cultures.

As described in the previous chapters, the simulation is modeled using Vensim. The initial conditions which are shown in Table 12. facilitate new norm emergence and are already described in detail in the previous chapter. It should be noted that I only provide key variables that affect system behavior. Manual exploration, combined with the sensitivity analysis discussed in the previous chapter, were used to identify the key parameters.

Table 12. Democratic Parameters' Initial Value

Parameter	Initial Value
Percentage of Dissimilarity	5%
Learning Coefficient	70%
Likelihood of Extreme Behaviors	0.1
Effect of Anger on Positive Feeling	0.7
Effect of First Violation on Pro-Category Emotion	0.5

In this simulation run, as shown in Table 12., 70 percent of the population is assumed to be educated in the sense that they learn and accept the new norm. Based on the literature, in democratic cultures freedom of speech and social media enable a higher level of education and information transmission in comparision to non-democratic cultures. However, I consider approximately 70 percent of the population learn and accept the new norm due to factors such as violators' uncertainty about the new norm's benefit or a competing norm in the society which attracts violators and prohibit them from moving toward the new norm.

The Percentage of Dissimilarity is a constant. This variable shows the percentage of the violators group population that percieves dissimilarity between their interests and goals and the contesting group goal. There are three primary reasons for this: (1) they do not refute the old norm totally, (2) the government or old-norm defenders are able to encourage them to follow the old norm again, or (3) they might find another competing norm to be more appropriate. For one or more of these reasons, they leave the violators group. This percentage of dissimilarity due to different goals is one of the main reasons why individuals detach from the group (Posten & Mussweiler, 2013; Richardson, 2020). Therefore, it is important for the initial value of this variable to be insignificant. I assume its initial value is five percent. Clearly, changes in these parameters can change the results and I will discuss this in detail in the norm antipreneur scenario.

Also, government punishment results in anger among people who percieve that punishment as illigitimate in both democratic and non-democratic societies—like what happened when the Canadian governmnet punished Dr. Henry Morgentaler during the Canadian abortion law movement (Stevenson, 2019).

Likelihood of Extreme Behavior is another key parameter in this model. Extreme behaviour, which is also known as faux activist in the literature, is considered to involve a wide range of

actions including lighting fires on public transportation or vandalizing public places. Often, the result is to reduce the group behaviour, because it not only causes anti-group emotion, which reduces the group behavior, but it also triggers government action in the form of prompt and severe punishment. Clearly, it has a negative effect on the process and needs to be relatively insignificant for the base run (other values will be explored later). I assume the likelihood of having extreme behavior among those opposed to the old norm in the society is 10 percent. Of course, similar to the Perception of Dissimilarity, a change in this parameter changes the results. I discuss this further in the Effect of Asymmetric Extreme Behavior scenario.

Finally, I assume that initial norm contestation, represented by the variable Effect of First Violation on Pro-Category Emtion, has a value of 0.5. This means that the old norm has an average strength; it is neither weak nor strong. In other words, a considerable portion of a society comes to a shared intersubjective undrestanding about that old norm as not being beneficial. Violation of the norm not only causes negative feelings among some portion of society; it also causes positive feelings among another portion of the population.

The base run results are shown is in Figure 55. which depicts the key populations and their expected behavior. The base run experiment has been exercised in democratic culture and the results support my conceptual model.

Based on the results shown in Figure 55. a tipping point occurs at approximately year 68. Finnemore and Sikkink (1998) describe tipping points in their theory of norm life cycle from a political science point of view. I discussed a norm's life cycle in detail in the literature review chapter. It is a dynamic process that includes three stages: 1) norm emergence; 2) norm cascades; and 3) internalization. A tipping point happens somewhere between stages one and two. It is the time when adaptation of a new norm becomes considerably faster than before and after that point

the new norm cascades among the population. At this time an old norm has lost the majority of its followers and its robustness explicitly shrinks. The transfer of power between followers of two groups begins and there is a shift between new norm opponents and proponents (Gilardi 2010).

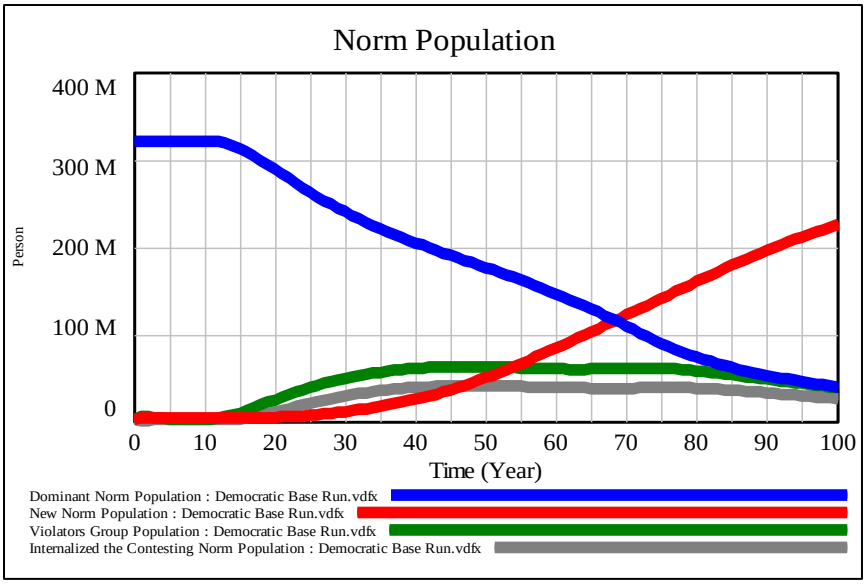

Figure 55. New Norm Emergence Results Under Democratic Culture

The tipping point is the time in which contesters can think of getting rid of government pressure and begin to lobby with government elites and officials who have strong influence in the society and in the governmental system (Finnemore and Sikkink 1998). The aim for those lobbying is to gain the support of elites for the peaceful negotiation of a change to the law with respect for public opinion. Iglič and Rus (2000) state that new elites—those who are less powerful—are better targets for contesters for negotiation. To advance their status in the society, the new elites need a potential tool to increase their power to be able to balance against the old elites. Negotiation with new norm followers provides them that potential tool and power.

In this simulation run, which happens on democratic culture, the model behaves as it was expected. This means that the conceptual model and simulation model in this study come to the same results and support each other. Thus, the theory provides one potential explanation for the research question. We already discussed that the behavior of the model is supported by previous scholar's studies (Randers, 1973) which support the validity of the model. At this point, the results of this study can provide the answer to the research question and contributes to the field of norm study.

The results can be summarized in the following statements: In democratic societies whenever a sufficient population of a given society comes to a shared understanding that an old restrictive norm is not beneficial for them and there exist other norms which can fulfill their goal and interest more, initial contestation can be formed as a critical point and move the system in the new direction. And that means some portion of the people in a given society feel positive about that contestation rather than negative. That positive feeling causes perceptions of similarity among them. Thus, they begin to join the violators. After the violators group forms, a considerable percentage of violators need to be educated to learn and accept the new norm, and eventually internalize that norm. This parameter is not the only factor needed in order to have a significant number of violators internalize the new norm. At the same time, it is necessary to have an insignificant percentage of the violators' population perceive different goals and dissimilarity regarding the new norm. These two parameters need to be fulfilled as it is shown in Table 12. for the population to move toward the new norm. When a group of violators, who have internalized a new norm, begin to explicitly behave based on the new norm, they are at risk of being punished by government and their peers. But that punishment does not always suppress the violating behavior; sometimes the punishment causes angriness among new norm followers and

consequently public outcry. Thus, if government punishment results in angriness, which is shown in Table 12., violators take riskier actions and show more violating behavior. This results in the emergence of a new norm as a normative behavior. Of course, in this dynamic process violators not only need to not show excessive extreme behavior (as will be examined later) but they also need to be cautious and manage any third-party or possible governmental extreme behavior activities.

I would like to end this section with a discussion that further examines how the temporal point where the two independent sequences intersect is crucial. I discussed the importance of this point earlier in the path dependence section and here I try to clarify it with some examples. Figure 56. illustrates how the intersection of two independent sequences at different temporal points changes the results. The top left of Figure 56. shows the results when a sufficient portion of the population is educated and comes to the shared understanding that the old norm is not beneficial for the society prior to the triggering event of the first violation. The top right of Figure 56. depicts another temporal point where there is not a considerable portion of the population with this shared understanding. The bottom of Figure 56. depicts the situation when norm contestation results in no change in the society because the old norm is still robust and almost everyone follows that norm. The first violation does not trigger the formation of a group of violators in this last scenario.

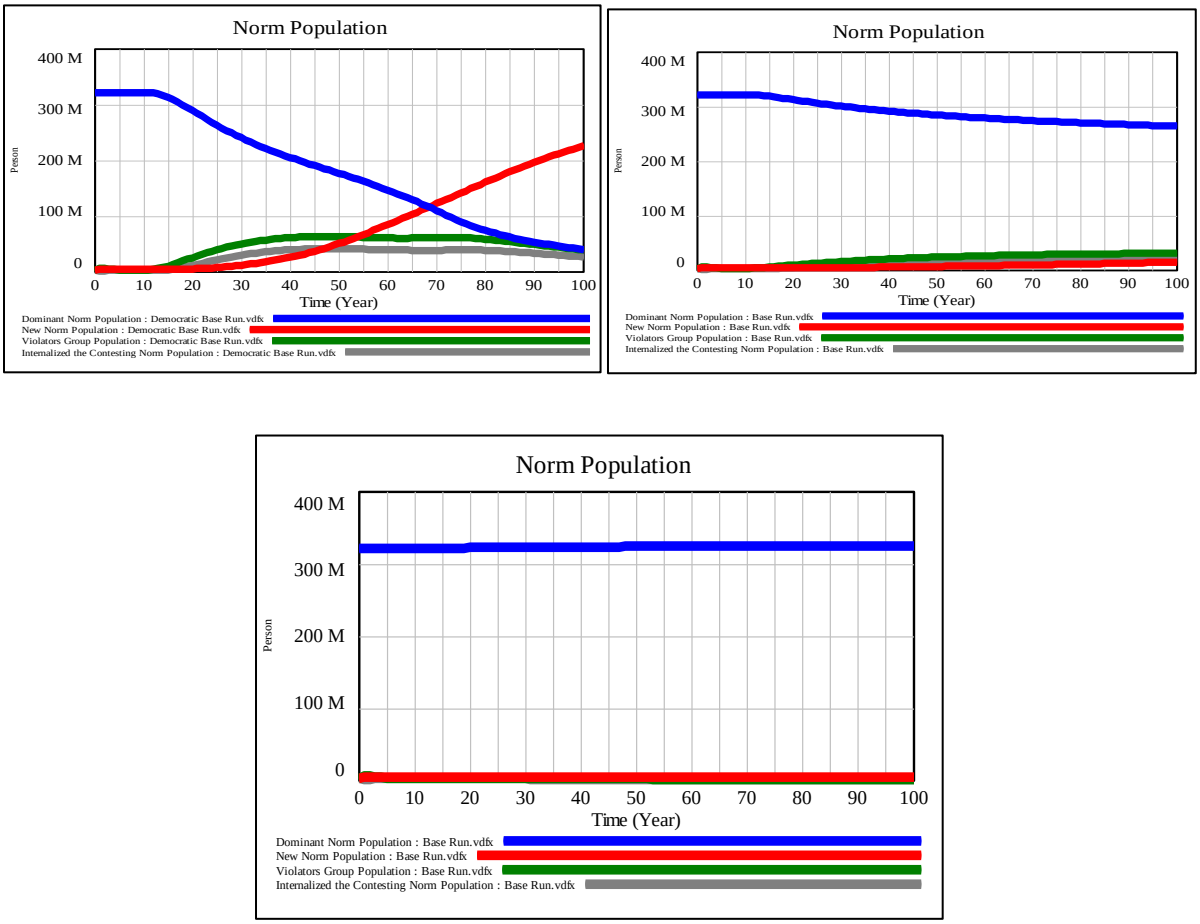

Figure 56. Different Results Due to Initial Violation Event at Different Temporal Point

Base Run Behavior for Non-Democratic and Tight Culture

To simulate the base run behavior for nondemocratic culture, I adjust the simulation model based on the cultural parameters shown in Table 11. and keep other parameters equal. The new parameters sample is shown in Table 13.

As shown in Figure 56., the initial conditions do not change the norm as much in non-democratic cultures. Those conditions only weaken the dominant norm and increase the population of violators. Although the old norm was weakened, the contestation is not successful enough to change the norm. This scenario supports what the path dependence literature explains

about the importance of an appropriate time for "critical juncture," which in this case is the "initial violation" event.

Table 13. Non-Democratic and Tight Parameters' Initial Value

Parameter	Initial Value
Percentage of Dissimilarity	5%
Learning Coefficient	30%
Likelihood of Extreme Behaviors	0.1
Effect of Anger on Positive Feeling	0.7
Effect of First Violation on Pro-Category Emotion	0.5
Peer Punishment	0.9
Government Punishment	0.9

Of course, after that violation the old norm is not as strong as it was before, but the violation did not change the path enough to convince people to accept the new norm. This situation gives the competing groups, or even the government, an opportunity to absorb the violators and/or to encourage violators to go back to the old norm by using slightly different language and interpretation through an antipreneur.[24] As is discussed in a later section of this

[24] Later, I will discuss antipreneurs and their role in this dynamic process.

chapter, this is similar to what happened in the Iranian women's contestation (Tohidi, 2003). But why does this happen?

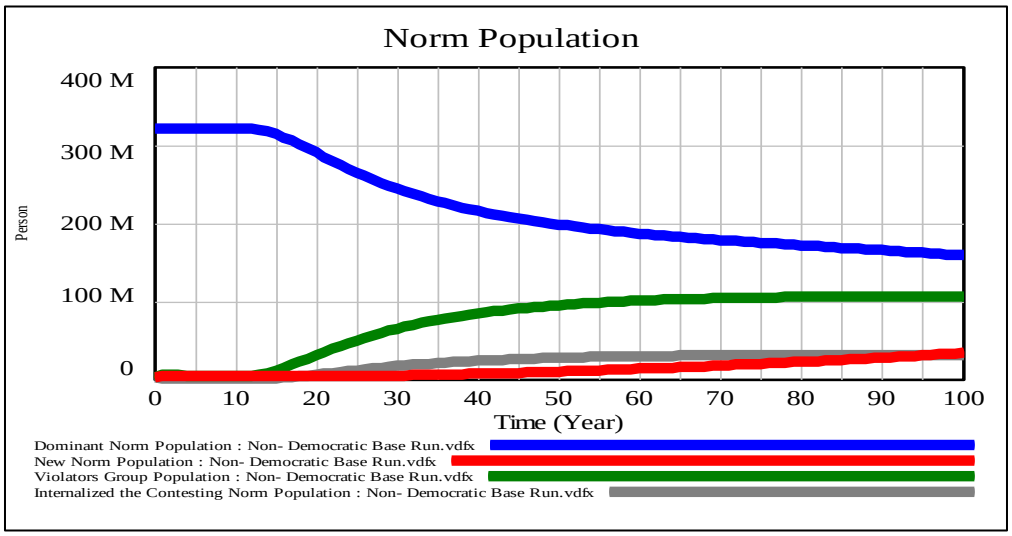

Figure 57. New Norm Population Under Non-Democratic Culture

As shown in Figure 58. due to the government control on social media or limited activist activity in the non-democratic culture, there exists limited educational resources. This results in fewer people learning and adopting a new norm and in consequence moving toward that new norm as a behavioral standard. Rather, the society faces a huge number of violators who do not have a strong shared identity and that weakens their ability to take collective action.

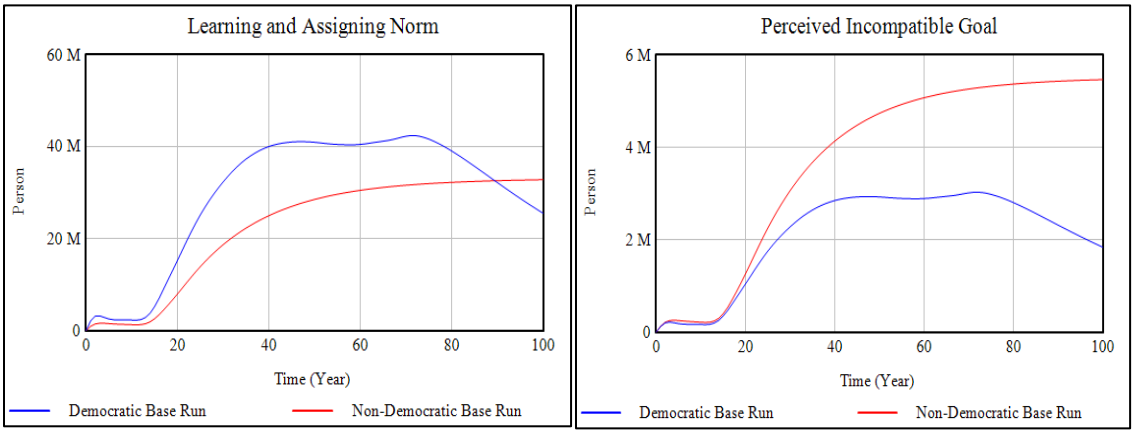

Figure 58. Number of People Who Socialize Toward a New Norm and Violators Population

We can see from Figure 59. that educating people toward a new norm is not as possible in a non-democratic culture as it is in a democratic culture, which might be due to resource availability or popular resistance. As a result, the increasing number of violators, without a clearly communicated new norm, provides the opportunity for other competing groups or the government to influence them. As a result, as shown in Figure 59., people are convinced to practice the old norm and the number of people who internalize, and act based on the new norm decreases.

Educating violators is only one part of this dynamic process. More government control and peer pressure both decreased risk taking because the cost for violating actions increases while the benefit decreases. Risk taking is reduced and group violating actions diminish; Figure 59. shows these results.

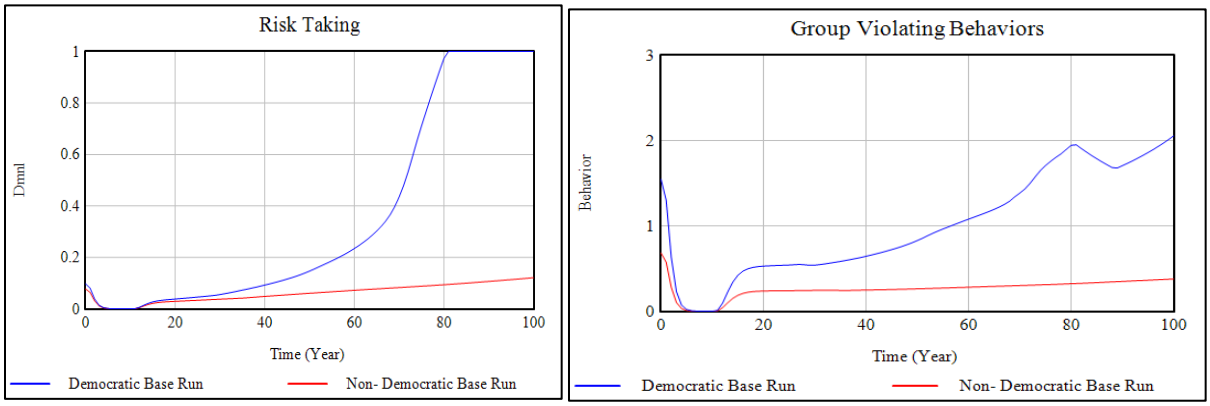

Figure 59. Risk Taking and Group Violating Behaviour Under Non-Democratic Culture

The base run behavior does not lead to the emergence of a new norm—it only weakens the old norm. It is possible, however, that if initial norm violation happens at a more appropriate time, and when the norm is weaker, it could lead to new norm emergence even in the non-democratic culture runs. The conditions would have to be substantially more propitious for this to take place. The next section explores such conditions.

Effect of Norm Robustness; Weak vs. Average Strength Norm in Non-Democratic Culture

Scholars have widely differing ideas about how to conceptualize norm robustness. While some focus primarily on the discursive dimension, others rely only on the practical dimension of norm to evaluate its robustness. Scholars who only focus on the discursive strength of a norm define it as a verbal acceptance of a norm in the society. They believe that when a norm is strong, there exists a general belief and diverse support for that norm, which have their roots in a shared value of the norm among people in the society (Deitelhoff & Zimmermann, 2019; Simmons & Jo, 2019). On the other hand, scholars who believe the practical dimension is a better tool to determine norm robustness define it as the degree in which the norm guides the followers' actions and behavior in the society. A third approach combines these ideas (Deitelhoff & Zimmermann, 2019). Thus, there is no universal standard to conceptualize norm robustness.

However, accepting the limitations in this task and assessing the analytical tools each approach offers I decided to use the third approach for this study. I followed the conceptualization of this approach and adjusted the parameter values based on this. The remainder of this section discusses the details of the process. I first adjust the parameters based on the discursive-based definition and run the model. Next, I do the same for practical dimension of the norm. Finally, I combine both dimensions to analyze the results.

Discursive Dimension of Norm Robustness

The discursive dimension of a norm is evaluated by two factors:

- Concordance: A norm is robust when it has a high level of concordance. Legro (1997) measures concordance as how widely that norm is intersubjectively agreed upon among the followers and their discussion, which can be contributed to all state, non-state, and citizen actors. This means that the majority of a society needs to have a shared understanding and belief about that norm. Thus, to implement concordance in my model, I change the initial value for the Pro-Category Emotion variable due to the first violation. That means the population of a society has a shared value and intersubjective understanding of the norm which causes similar shared feelings. A weak norm has a low concordance in favor of it and high concordance against it and vice versa for a strong norm. To show a contesting norm has a strong concordance, I need to increase that initial value.
- Third-Party reaction to norm violators: A robust old norm has strong third-party sanctioning on norm violators (Deitelhoff & Zimmermann, 2019). To show stronger third-party sanctioning, I consider more effect for peer pressure. Thus, I change the initial value for Peer Punishment from 0.9 to 0.7 to show that the norm has a weaker

third-party sanctioning. Table 14. shows the change in the parameters value for a discursively average and weak norm in non-democratic society.

Table 14. Non-Democratic Parameters' Initial Value for Discursive-Based Weak vs. Average Norm

Parameter	Initial Value Non-Democratic	Discursive-Based Weak Norm
Percentage of Dissimilarity	5%	5%
Learning Coefficient	30%	30%
Likelihood of Extreme Behaviors	0.1	0.1
Effect of Anger on Positive Feeling	0.7	0.7
Effect of First Violation on Pro-Category Emotion	**0.5**	**0.6**
Peer Punishment	**0.9**	**0.7**

Clearly, a discursively weak norm can be challenged more easily and weakend even more but that does not mean the the norm will be completely replaced by a new norm, as shown in Figure 60. We can see that the tipping point happens sometimes around year 90.

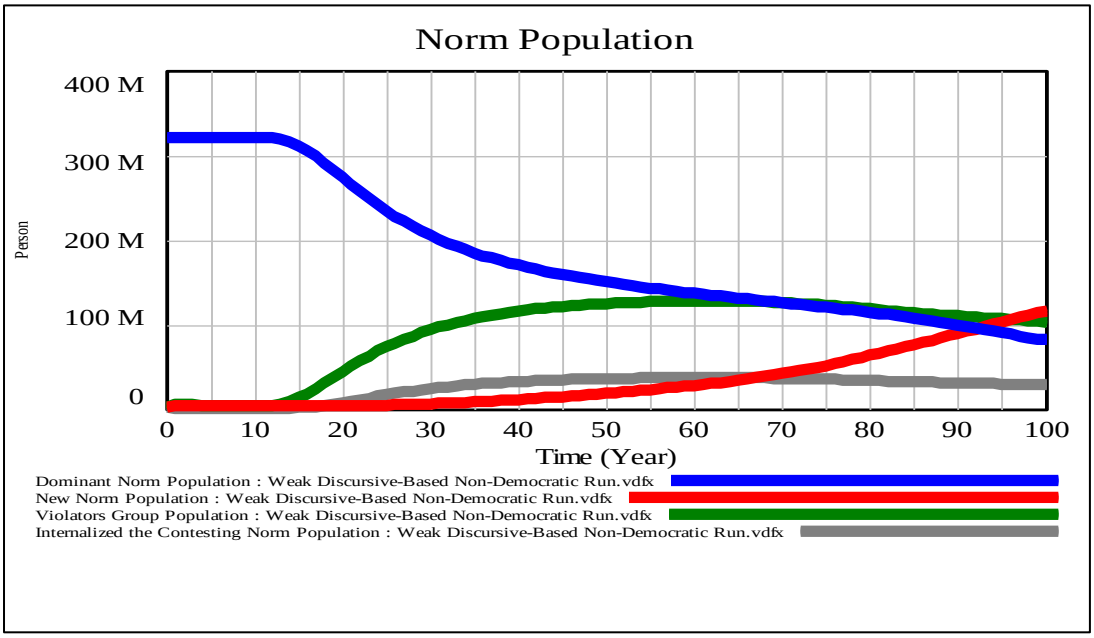

Figure 60. New Norm Population Under Discursive-Based Weak Norm

One of the reasons this change happens is clearly due to less peer pressure, which I show in the Feeling of Disgust graph in Figure 61. We can see that peer pressure drops to almost 0.1 when a norm is weak, while it does not go below 0.4 in an average norm. As a result, there would be less negative feeling and more risk taking in the society (see Risk Taking graph in Figure 61)

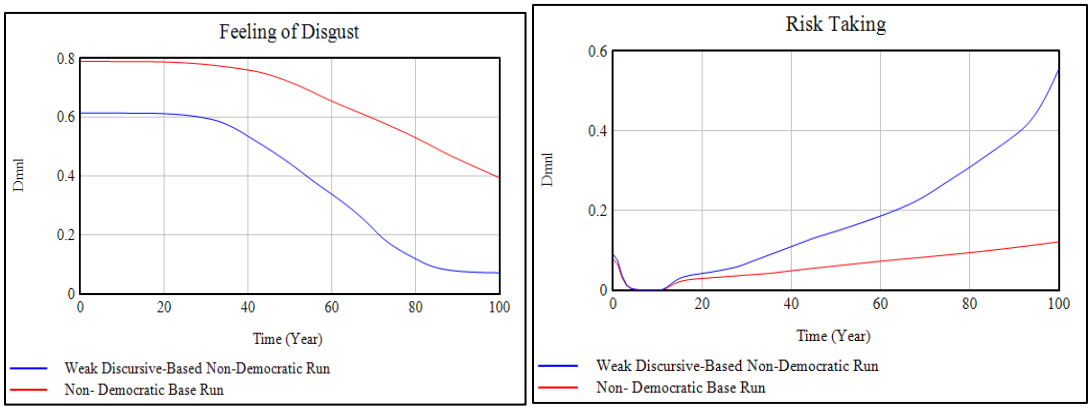

Figure 61. Feeling of Disgust and Risk Taking in Non-Democratic Culture

From Figure 61 we can also see that a significant number of violators exist in the society which, due to lack of education, do not move forward to learn and internalize the new norm. As a result, the number of people who learn and internalize the new norm does not change significantly (Figure 62.). Civil societies and their civic education are crucial parameters that can change the process and results drastically.

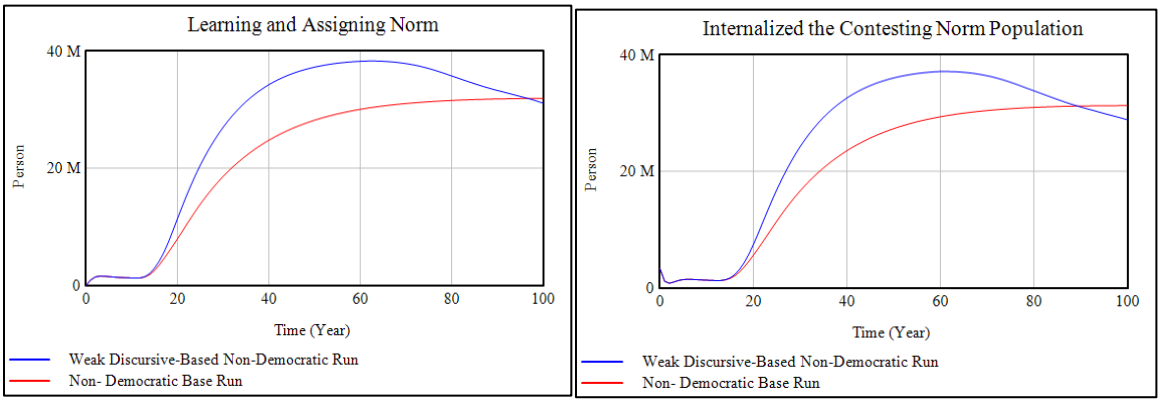

Figure 62. Learning and Internalizing a New Norm in Non-Democratic Culture

Practice-Based Dimension of Norm Robustness

The practical dimension of a norm is evaluated by the two factors explained below:

- Compliance: In international politics, scholars define a norm as robust when a few states violate the norm and most others follow it (Glennon, 2004). As we are dealing with individuals here, I consider a norm to be robust when most of the people behave in a way that is consistent with the old norm. Thus, to show the norm is weaker than average, I change the percent of people who violate the old norm and those who follow that. As a result, I change initial value for p1 (old norm population) from 0.97 to 0.95 and p2

(violators norm population) from 0.01 to 0.03, which means more people behave against the norm.

- Implementation: when a norm is strong, the government expends more regulatory and monitoring efforts on the implementing norm. In other words, a government might offer several versions of a law to make sure it is implemented sufficiently. Or, the government may have more monitoring resources to make sure that a law is put into effect properly. I show this by changing the maximum effect of Government Punishment and Percentage of Dissimilarity. I change the former from 0.9 to 0.7 and the latter from five percent to four percent, which shows the government has less power to implement the norm. The changes are summarized in Table 15.

Table 15. Non-Democratic Parameters' Initial Value for Practice-Based Weak vs. Average Norm

Parameter	Initial Value Non-Democratic	Practice-Based Weak Norm
Percentage of Dissimilarity	5%	**4%**
Effect of First Violation on Pro-Category Emotion	0.5	0.5
Government Punishment	**0.9**	**0.7**
Old Norm Population, P1	**0.97**	**0.95**
Violators Group population, P2	**0.01**	**0.03**

As shown in Figure 63., a practice-based weak norm is easier to challenge in comparison to an average strength norm. However, in this current scenario the tipping point between the two populations does not happen. The question here is why the discursive-based weak norm reaches the tipping point but the practice-based weak norm does not.

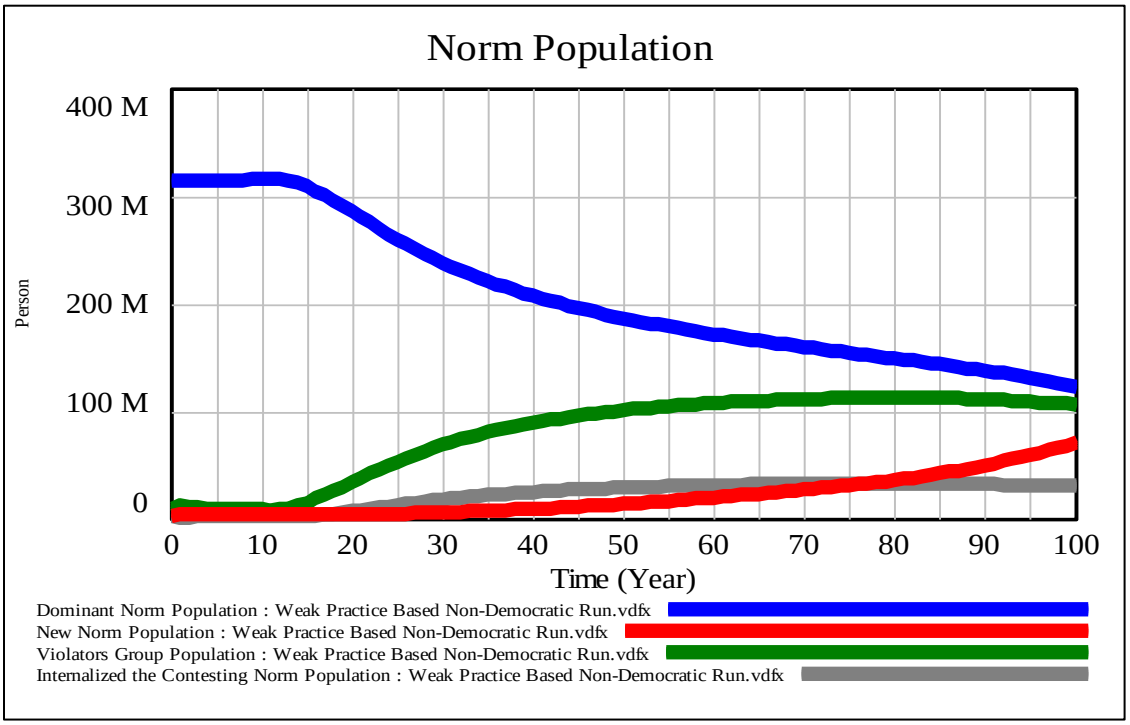

Figure 63. New Norm Population Under Practice-Based Weak Norm

Why that happens could be answered by the difference in positive feeling in each situation. As shown in Figure 64., positive feelings in a discursive-based weak norm exceed the two others due to a stronger shared understanding and feeling in the society. Indeed, less peer pressure in the society in the discursive-based weak norm further increases risk taking as shown in Figure 64.

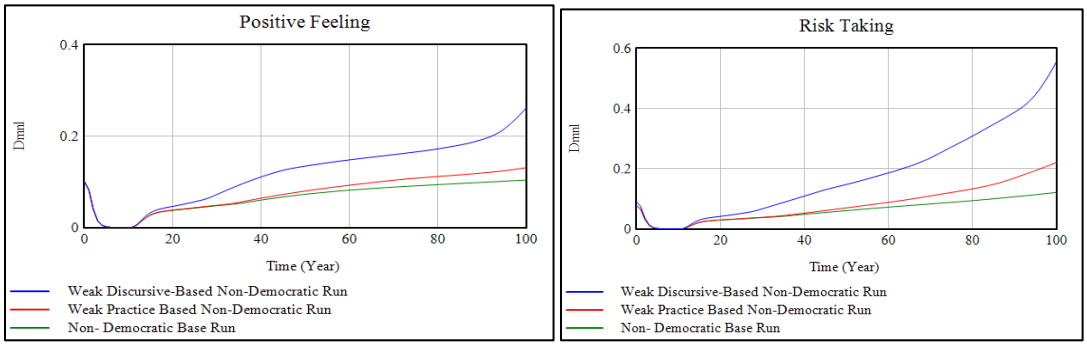

Figure 64. Positive Feeling and Risk Taking in Non-Democratic Culture

The other parameter that causes this difference is Government Punishment. It is stronger in a weak discursive-based norm, but it does not result in a smaller violating group. This can be explained by the existence of higher risk taking in a discursive-based weak norm, either due to less peer pressure, or as a result of a lower probability of getting angry because the government punishes the violators less, as shown in Figure 64.

Mixed-Dimension of Norm Robustness

In this scenario, I combine both the discursive and the practice dimension of norm robustness and see how that changes the situation. All parameter values are adjusted based on previous discussion and are summarized in Table 16.

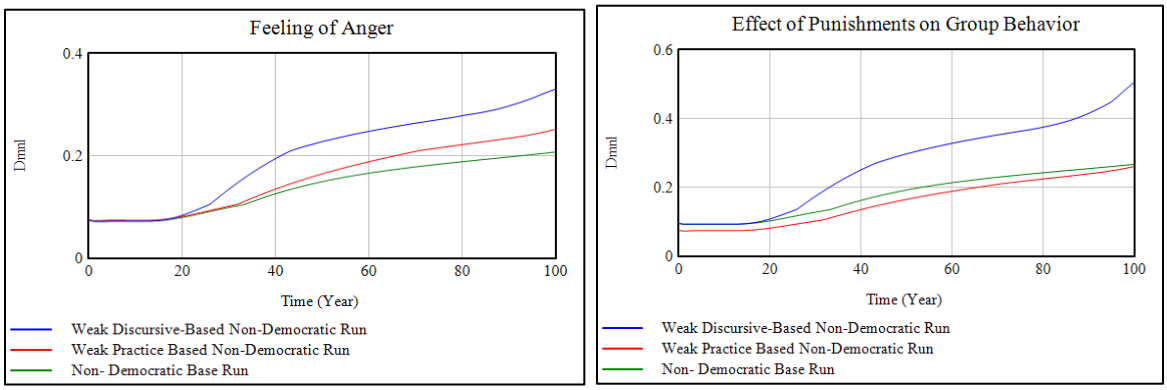

Figure 65. Feeling of Anger and Government Punishment in Non-Democratic Culture

Table 16. Non-Democratic Parameters' Initial Value for Weak vs. Average Norm

Parameter	Initial Value Non-Democratic	Combined Weak Norm
Percentage of Dissimilarity	5%	4%
Effect of First Violation on Pro-Category Emotion	0.5	0.6
Peer Punishment	0.9	0.7
Government Punishment	0.9	0.7
Old Norm Population, P1	0.97	0.95
Violators Group population, P2	0.01	0.03

As shown in Figure 66., there is a possibility that the old norm will be replaced by a new norm in non-democratic societies. The tipping point occurs around year 73 and at least half of the population believes in the new norm at year 100.

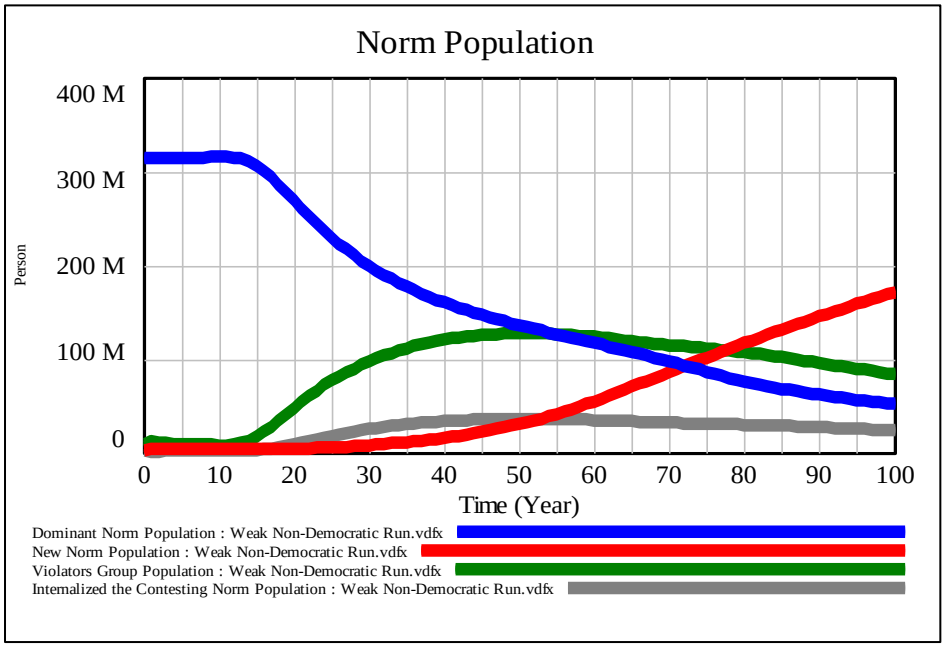

Figure 66. New Norm Emergence in Non-Democratic Culture

The conditions I define in Table 16. result in the emergence of a new norm under non-democratic culture. Based on these conditions, in order to have a successful contestation, the initial violation (event G in Figure 54.) needs to happen at the time when the incumbent norm is discursively weaker and governmental control on the norm is not very strong. However, as was discussed earlier, this alone is not enough (event K); the connecting steps must be fulfilled.

As shown in Figure 67., with a weak norm the initial contestation, is more fruitful as an intervention and increases the perception of similarity. In other words, when a norm is weaker, not only is the perception of similarity greater among society, but more people are ready and looking for an opportunity to join a group and violate that norm. Thus, the transfer rate is increased. Indeed, due to less government monitoring and advertisement there will be fewer people who go back to the old norm. Instead, they socialize toward a new norm.

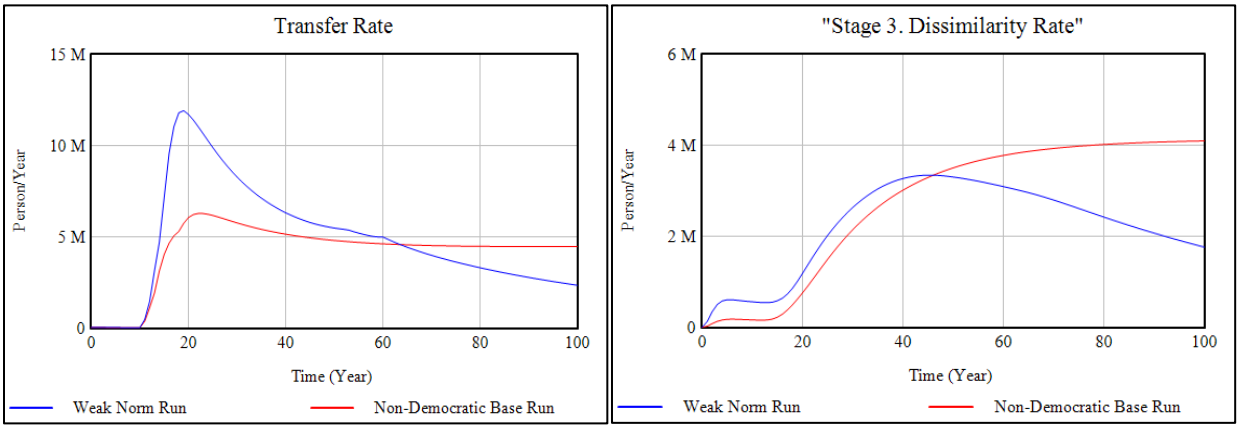

Figure 67. Transfer Rate and Dissimilarity Rate Under Weak Norm

Clearly, when the government exercises less control and monitoring, the feeling of fear decreases and less pressure by the society means less feeling of disgust about the violation of the norm. As is shown in Figure 68., this causes more risk taking and, consequently, group violating behavior, which results in a new norm emergence.

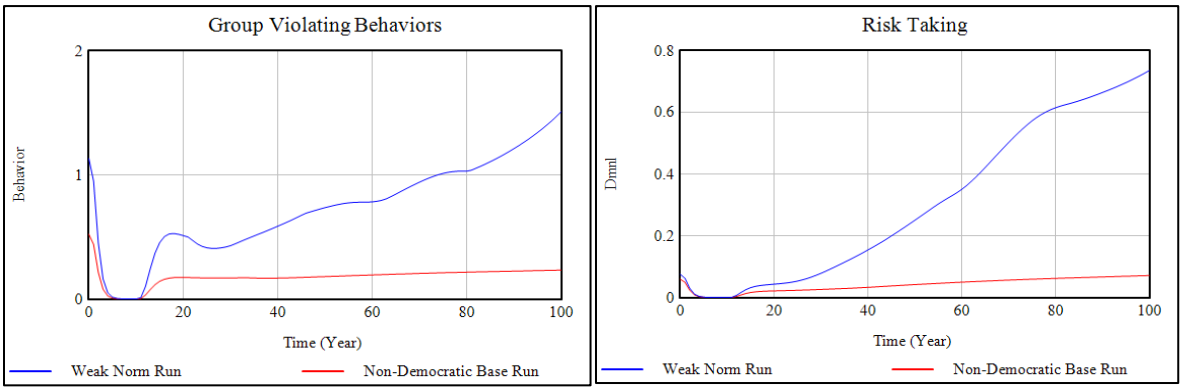

Figure 68. Risk Taking and Group Violating Behavior Under Weak Norm

Investigating Intervening Events Through Different Scenarios

Although it is important to know the overall sequence of events that leads to the final outcome (shown by A-K for this study), there exist several smaller and intervening connections between these events that are not shown with a direct link but are main objects of analysis in path dependence (Mahoney, 2000). I already discussed that First Violation leads to the violators' group formation, event H, but that does not assure us of the emergence of a new norm. Adequate educational resources which provide collective beliefs about the new norm among violators play an important role at this stage, while lack of that might result in less competing norm strength and change the situation. In addition, perception of dissimilarity that results in distrust toward a new norm is another connecting factor: if a considerable group of people perceive dissimilarity the final outcome will change. Moreover, even if an adequate number of violators internalize the new norm and begin practicing that norm, contesters need to take risks to show that violating behavior publicly. Of course, individuals are rational and do cost/benefit analysis: it is costly to be abandoned by your peers and punished by government. Thus, the effect of government and peer punishment needs not to surpass the positive feeling among violators. This cost-benefit calculation is contingent on several factors such as if government punishment is perceived as illegitimate and triggers feelings of anger, or if the government suppresses that anger by specific policies, or if there is less peer pressure on the violators. Any of these connecting factors can change the situation and change the final outcome.

Effect of Anger on Emergence of a New Norm

One of the main arguments of this study, which is depicted in Figure 69. is: *Government punishment might result in feelings of angriness and increase risk taking rather than decrease risk taking as intended, and this encourages more people to violate the norm. In*

consequence it increases both the number of people who behave based on the new norm and those who perceive similarity with violators.

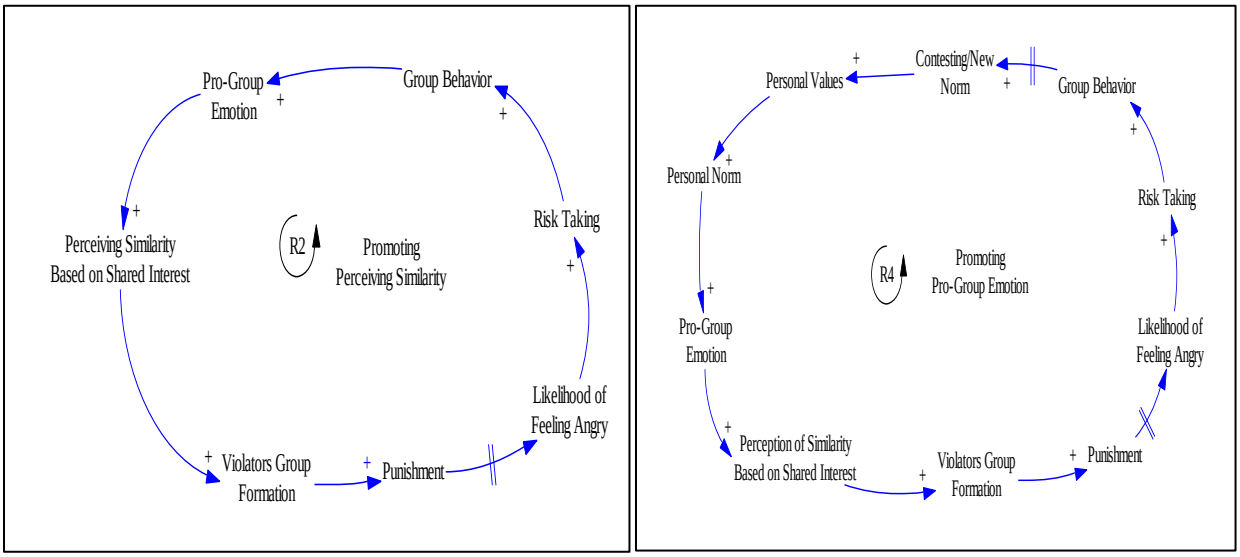

Figure 69. Effect of Feeling of Anger on New Norm Emergence

In this experiment to test this novel argument I keep all other variables the same and only change the initial value for effect of anger on positive feeling to see how it affects growth in the new norm population. Table 17. summarizes the values used for the model runs of this experiment.

Table 17. Base Run Democratic vs. Increase in Angriness Parameters

Parameter	Initial Value	High Anger	Low Anger	No Anger
Percentage of Dissimilarity	5%	5%	5%	5%

Table17. Continued

Parameter	Initial Value	High Anger	Low Anger	No Anger
Learning Coefficient	70%	70%	70%	70%
Likelihood of Extreme Behaviors	0.1	0.1	0.1	0.1
Effect of Anger on Positive Feeling towards Violators	**0.7**	**1**	**0.4**	**0**
Effect of First Violation on Pro-Category Emotion	0.5	0.5	0.5	0.5

As shown in Figure 70., choosing government punishment as an encouraging source of action in some cases seems to be a valid assumption considering the results from the simulation. This is arguably like what happened in the Stonewall Inn riots concerning LGBTQ rights.

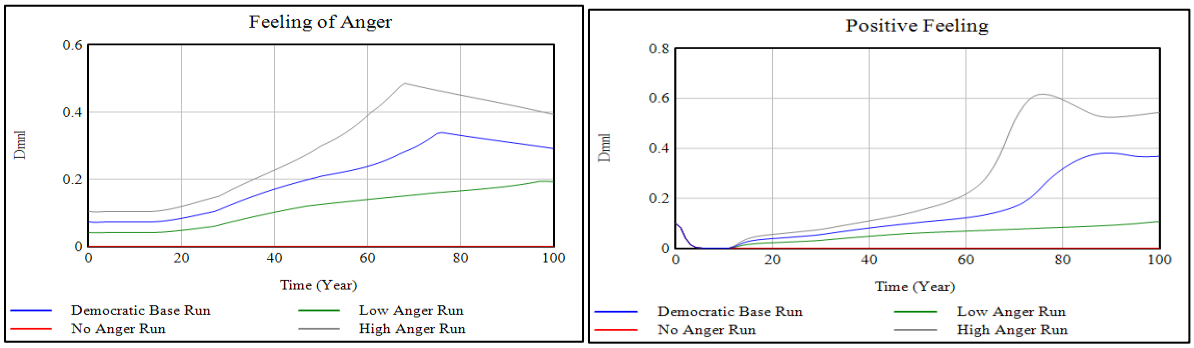

Figure 70. Feeling of Anger and Positive Feeling with Asymmetric Feeling of Anger

The graph on the left side depicts the expected behavior of increasing and decreasing the Effect of Anger variable. The reason increasing feelings of anger result in more rapid growth of the contesting norm population can be explained by looking at the graphs in Figure 70. The

initial value for Effect of Anger affects positive feeling toward violators. An increase in feelings of anger increase the benefit to take risks and, in consequence, violating behavior. Additionally, it increases the rate a new norm emerges through its practice by people. If those feelings of anger are suppressed, we see the opposite results.

As it is clear from above results, governments potentially need to be cautious when it comes to punishing violators. If punishing violators would be perceived as unjustified or the punishment as illegitimate, which triggers anger, then the punishment could backfire. Feelings of anger that cause more violating behavior have another side effect. It causes more people from outside the group to notice the ongoing violation, and due to emotional ties, perceive similarity (Figure 71.). They may then join the violators which further weakens the old norm. Thus, governments usually seek a policy to justify their punishment and reduce feelings of anger.

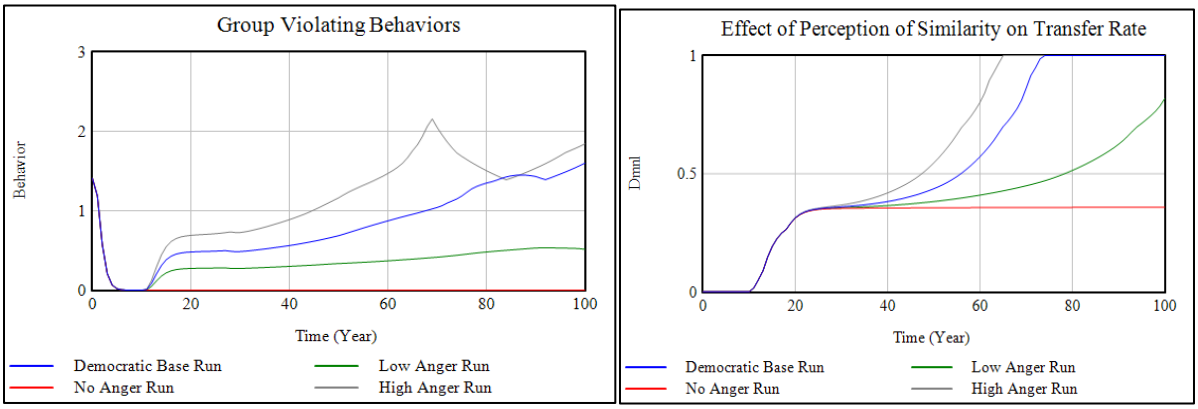

Figure 71. Effect of Asymmetric Feeling of Anger on Violating Behavior

Effect of Asymmetric Extreme Behavior/Faux Activist on New Norm Emergence

An enduring question for activists is how far to go in pushing for change and engaging in extreme behavior. For instance, in the context of the effort to change public views and to get

government attention and funding to fight the AIDS epidemic, should activists fight with police and disrupt public order, or should they create a quilt (Abumrad & Miller, 2020, December, 18)?

I noted earlier in this chapter that there are several connecting and intervening variables that affect the sequences of the event toward the outcome. One of those variables is Likelihood of Extreme Behavior. This variable is called Faux Activists in the literature (Marx, 2012). It impacts group violating behavior and government punishment. For this experiment I am interested to see how facing asymmetric extreme behavior might change the final outcome. Thus, I change the extreme behavior initial value from 0.1 to 0.15 then to 0.01, as shown in Table 18.

Table 18. Base Run Democratic vs. Extreme Behavior

Parameter	Initial Value	High Extreme Behavior	Low Extreme Behavior
Percentage of Dissimilarity	5%	5%	5%
Learning Coefficient	70%	70%	70%
Likelihood of Extreme Behaviors	**0.1**	**0.15**	**0.01**
Effect of Anger on Positive Feeling	0.7	0.7	0.7
Effect of First Violation on Pro-Category Emotion	0.5	0.5	0.5

As shown in Figure 72., showing more extreme behavior during the collective action can change the outcome significantly. In this case, the new norm has not even reached the tipping point in our time frame, although contestation weakens the old norm and there does exist a

considerable population of violators. On the other hand, as shown in Figure 72., having too little extreme behavior during the collective violation results in the emergence of a new norm sooner in comparison with the results of initial value.

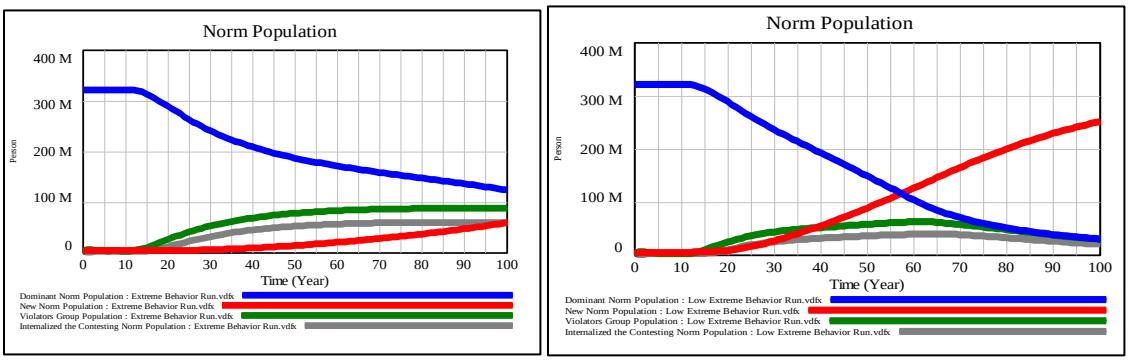

Figure 72. New Norm Population Due to Assymetric Extreme Behavior

But how does this variable cause that change? Extreme behavior causes a prompt and intense response by the government to suppress the violators. This punishment results in less group violating behavior because it increases the feeling of fear due to more severe suppression. This means the cost for risk taking is higher and the benefit is lower. Figure 73. shows how the cost and benefit changes due to asymmetric extreme behavior.

However, it should be noted that risk taking, and feelings of fear and anger are not the only reasons that the new norm population decreases. Due to extreme behavior, group behavior decreases as a result of increased punishment, as shown in Figure 74. In addition, another unanticipated result is that the more extreme behavior there is, the more anti-group emotion there is, which means other people in the society feel less similarity with violators and the transfer rate from the old norm decreases.

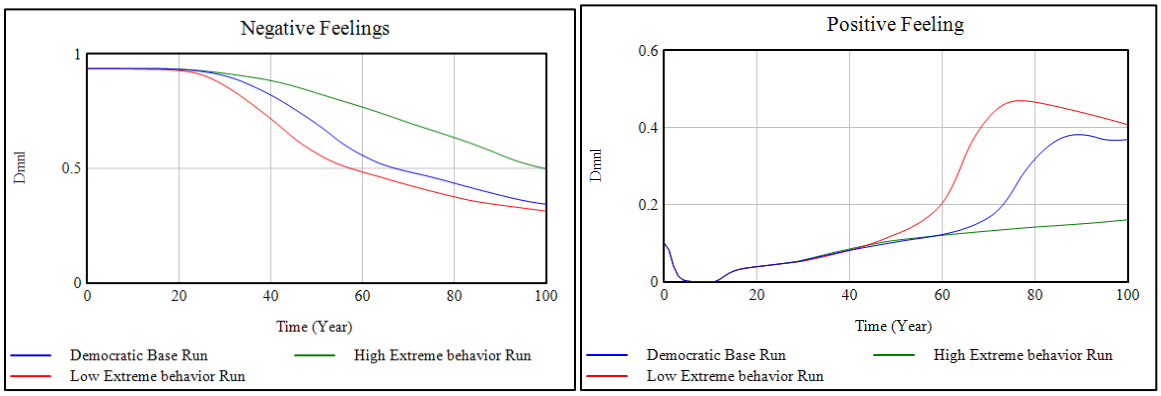

Figure 73. Effect of Asymmetric Extreme Behavior on Positive & Negative Feelings

Usually, severe and/or unjustified government punishment triggers feelings of anger. However, extreme behavior not only gives the government the opportunity for more intense control, it also gives the government a more legitimate excuse to crack down on the extreme behavior. This decreases the feeling of anger among people in response to that punishment (Marx, 2012).

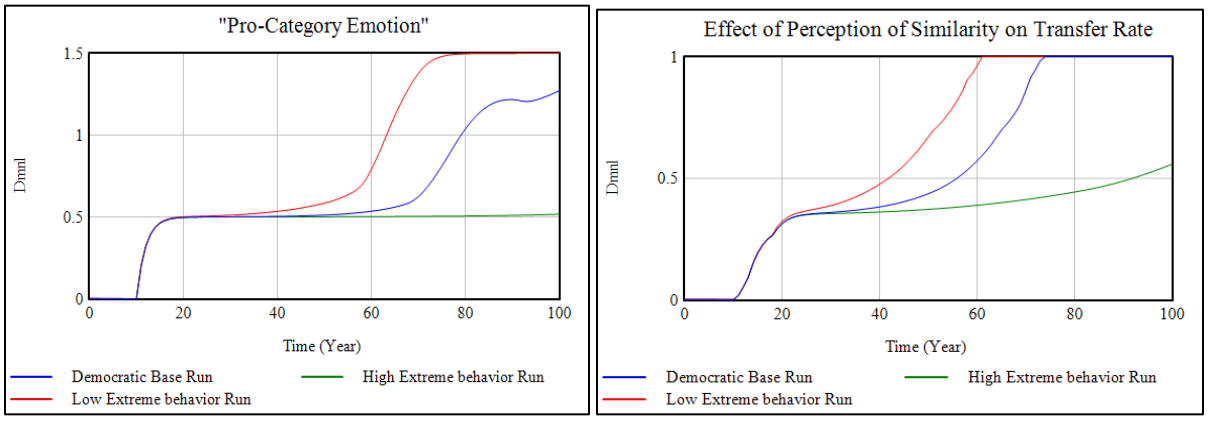

Figure 74. Effect of Asymmetric Extreme Behavior on Transfer Rate

These results support the idea that the path from event A to K in our model is contingent upon not only their antecedent events but also on intervening variables in order to have favorable outcomes, and it is essential to study those variables. This is one of the reasons that in some cases governments send agent provocateurs to take extreme measures to disrupt the progress of collective action. It should be noted that those activists who show extreme behavior might come from a group supporting a competing norm, which finds the situation favorable. If the old norm is weak and there is a considerable number of violators in the society, a competing norm group may hope to absorb them (Marx, 1974). Historical examples of this case could be the FBI's Counterintelligence Program's impact on feminist organizations' activity or the Black Party movement in the 1960s (Cunningham, 2004; Donner, 1990).

Effect of Norm Antipreneurs

Although there is a great deal of literature on the importance of norm entrepreneures/promoters in the field, there has been less attention to norm antipreneures and their role. Only recently, Bloomfield (2016) introduced the theory of norm antipreneurer and the importance of this group of actors. He defines them as a group of people who try to maintain the status quo or, in other words, promote the old norm. In this scenario, I am interested in finding out whether my model supports the literature. Thus, I assume that *under more active antipreneurship, we will face more perception of dissimilarity with the violators and new norm groups due to the antipreneur's attempt to educate people toward valuing an old norm.*

To examine the assumption, I only change the percentage of dissimilarity (here once again starting from the democratic base line parameters) from five percent to 15 percent and then to 30 percent to show the effect of this connecting variable in this process. All parameters for this scenarion are summarized in Table 19.

Table 19. Base Run vs. Higher Norm Antipreneurs' Activity

Parameter	Initial Value	Norm Antipreneurs Value
Percentage of Dissimilarity	**5%**	**15%**
Learning Coefficient	70%	70%
Likelihood of Extreme Behaviors	0.1	0.1
Effect of Anger on Positive Feeling	0.7	0.7
Effect of First Violation on Pro-Category Emotion	0.5	0.5

Based on the results, which are shown in Figure 75., norm antipreneurs appear to be another connecting variable that plays a significant role in this dynamic process. This result is consistent with the literature. Although scholars in the field mostly focus on the norm promoters, the results for this study show that under some educational resources/socialization conditions, education toward the old norm matters by reducing the rate at which the old norm is replaced.

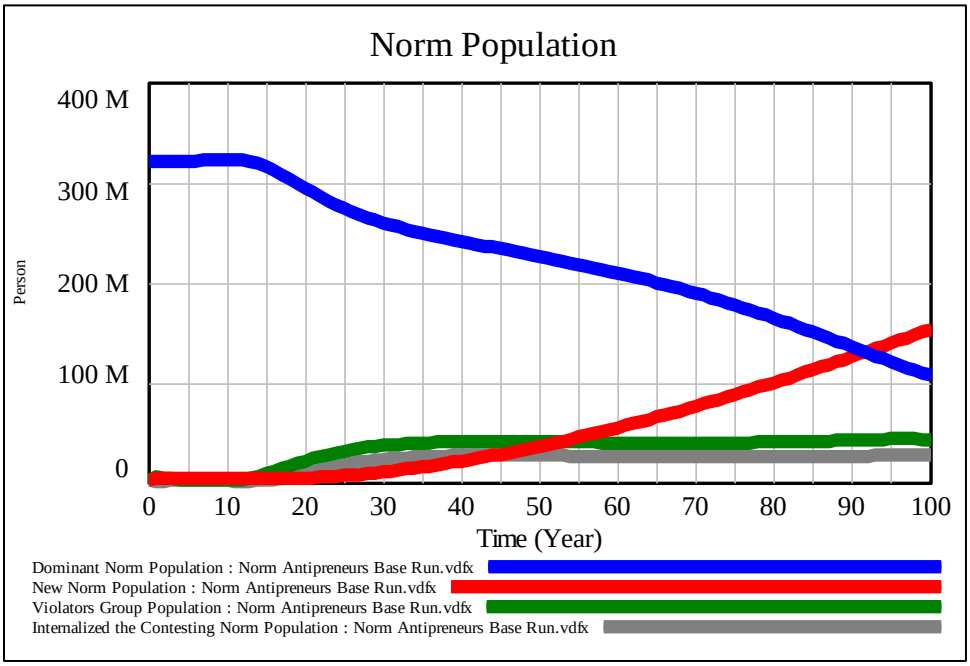

Figure 75. New Norm Emergence Under Strong Norm Antipreneurs

A norm antipreneur can use language that is more like the violators' goal and interests by reinterpreting the old norm to convince them that the old norm is what they need. An example of this situation is emergence of "Right Wing Conservative Feminism" during the Iranian women's contestation for equal rights (Tohidi, 2003). As a result, they maintained the status quo by increasing the perception that the new norm is not compatible with the violators' goal. A significant delay in the decline of the old norm is shown in Figure 76.

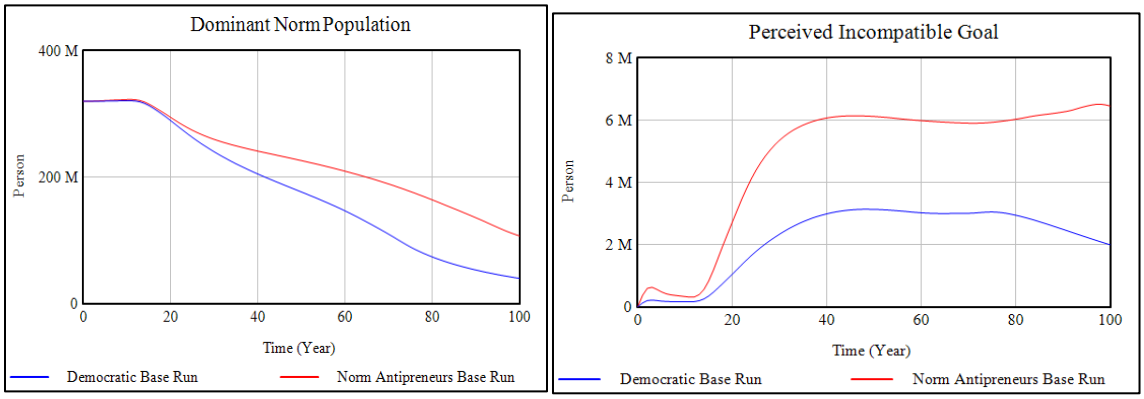

Figure 76. Effect of Asymmetric Antipreneurs' Activity on Dominant Norm Population

These results reflect that a government policy of using antipreneurs could delay and/or prevent the emergence of a new norm. Although a tipping point occurred around year 95 in this run, during the 100-year time scale, the new norm population did not even amount to half of the population. That means government officials can use this policy and not only postpone the emergence of the new norm but indeed enforce the old norm in the society by partial differences.

Effect of Asymmetric Punishment

As we discussed earlier, punishment is the main mechanism to enforce a norm. Thus, governments punish the violators. But what if a norm is not a matter of security like a norm of humanitarianism or governments do not have much control over the norm, like keeping a gun at home. In this experiment, I explore how contestation of norms that encounter less pressure might challenge an old norm. To do so, I change the effect of government punishment. Its baseline initial value is 0.6 and I change it to 0.3. And peer punishment also decreased from 0.5 to 0.25. These changes summarize it in Table 20.

Table 20. Parameters' Values for Less Pressure

Parameter	Initial Value	Less Presure Value
Percentage of Dissimilarity	5%	5%
Learning Coefficient	70%	70%
Likelihood of Extreme Behaviors	0.1	0.1
Effect of First Violation on Pro-Category Emotion	0.5	0.5
Peer Punishment	**0.6**	**0.3**
Government Punishment	**0.5**	**0.25**

Based on the results, which are shown in Figure 77., the tipping point in this scenario occurred around year 57, almost 10 years sooner than the base run.

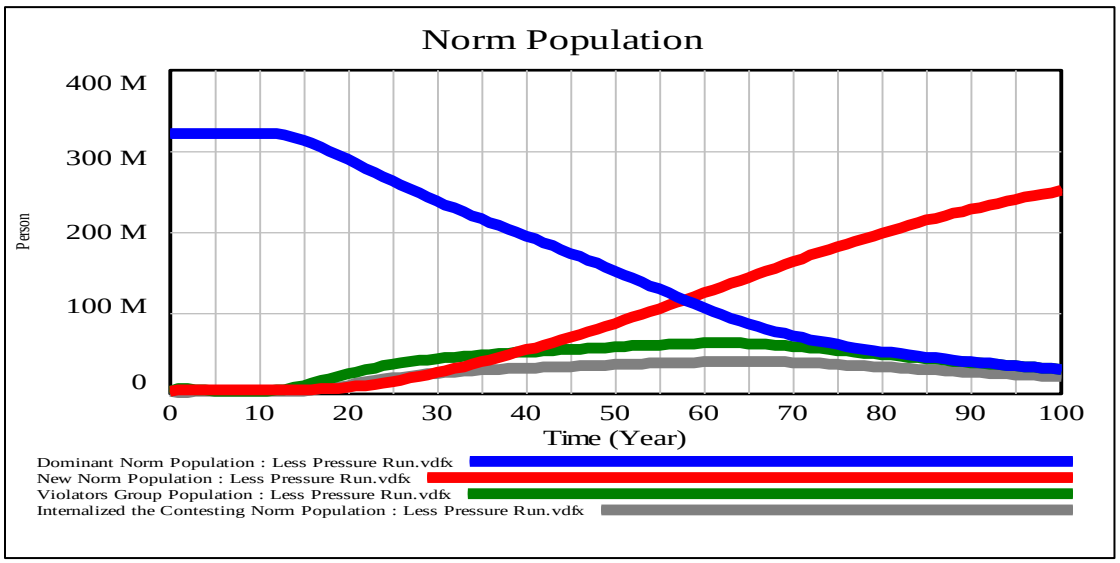

Figure 77. New Norm Emergence Under Less Pressure

These results are consistent with the expectation of what would happen with less pressure from government and people feeling that it less risky to show violating behavior.

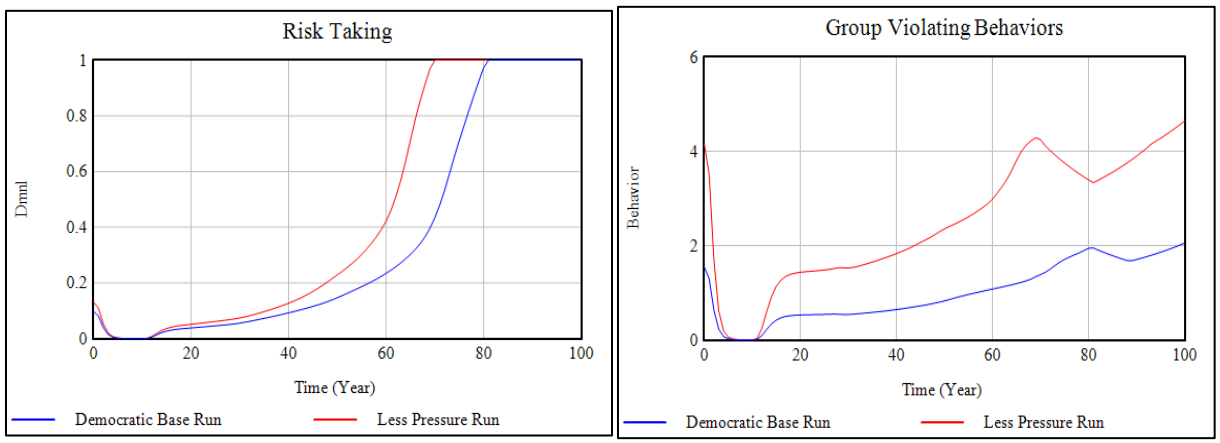

Figure 78. New Norm Population Under Less Pressure

Conclusion

In this chapter, I provide the answers to this study's main question and explain the mechanism under which a new norm might emerge in both democratic and non-democratic cultures. Based on the results of this study, it is possible that an initial violation could trigger the rise of a contesting norm which could become a dominant norm in a democratic society when the old norm has average strength. However, it will not happen in a non-democratic society until or unless the old norm becomes weak enough. After that, I study several existing policies as intervening factors in this process such as extreme behavior or norm antipreneur activities which could prevent or delay the emergence of a new norm. So, my theory, and the model I developed to test it, provide answers to the existing questions the research has posed and contributes to the literature. As we have seen, an initial violation that comes at an appropriate time can trigger the replacement of an old norm with a new one. But the timing needs to be appropriate, and several

other conditions can either slow or accelerate the adoption of the new norm. I will conclude this study with a discussion of its limitations and future research areas in the next chapter.

CONCLUSIONS

Model's Answer to the Research Question

This study begins with the question: *Under which conditions do powerless individual actors' contestation of harmful dominant norms cause the emergence of new norms which result in changes in states' behavior.*

To address that question, I used social identity theory to develop my theoretical model. Model runs simulated both democratic loose and non-democratic tight societies. Based on the model's results, an average strength norm can be replaced in loose societies when a large enough percentage of people comes to a shared understanding. This primarily happens through civil societies, their educational programs, activists, storytelling programs, and even self-experience or by being a witness of the harmful consequences of an old norm. The old norm is harmful and there exist other norms that might be more consistent with their interests. The model begins when those people may not yet possess a collective belief about which norm could be the best substitute. At this point, Initial Violation plays a critical role in the path dependence embodied in the theoretical model and can move the system in a new direction. The temporal point in which norm contestation happens is significantly important because the old norm is still strong it might reverse any progress toward a new norm or not even allow change due to negative feelings and pressure by the society. Thus, to change or at least weaken the norm, Initial Violation must happen at the point when it causes positive feelings among a sufficient population across society. That positive feeling, with its roots in population values and norms, causes a perception of similarity and moves the population from the old norm to a norm violators group. When this occurs, civil societies play the main role educating people to learn and internalize the new norm.

For the system to move toward the final event, a newly emerged norm, a significant number of individuals in the violators population need to be socialized toward the new norm. At the same time, only a very negligible percentage of the population continues to be educated toward the old norm, thus perceiving dissimilarity and showing distrust toward the new norm. It is important to mention that based on the results, lack of educational resources toward a new norm combined with more government control and censorship, is one of the main reasons an average-strength norm cannot be replaced in tight societies and an old norm must become weaker than average in order to be replaced by a contesting norm. Violators who internalize the new norm begin to behave based on it. This results in peer and government punishment—pressures which are clearly higher in a tight society. however, government punishment does not always reduce the risk taking. In cases when punishment is perceived to be illegitimate, it might trigger anger among violators and increase risk taking and, in consequence, violating behavior, which hastens the new norm emergence. Although this model is solely theoretical and not empirical, there exist several successful historical, contemporary, and ongoing real-world examples that fit this model.

Real-World Applications of the Model

Several historical examples were discussed in earlier chapters. Now I would like to explain some contemporary examples and applications of the model and norm emergence through norm contestation. One of the major limitations of providing ongoing examples is that we might only observe a part or some parts of the whole story and not all.

The Gilet Jaunes (Yellow Vest): France 2018-2019

The tax reform by President Macron intensified the economic struggle for the middle class of the society and caused unemployment and economic misery for much of the working class. Thus, the new law put pressure on the middle class and working-class groups.

Coincidently, due to a cut in public transportation, most of the French population relied on their own car for living. As a result, increasing the fuel price in France directly affected living expenses and causing even greater economic disparities across different classes of French society. This situation made many people angry and they asked for lower fuel prices and a few other reforms to improve their life conditions and for more economic justice.

In October 2018, Eric Drouet and Priscilla Ludisky called on the people to contest the law by blocking their local roads while using yellow jackets to attract attention to the issue (Lichfield, 2019; Rubin & Sengupta, 2018). This movement had no association with any political party and around 290,000 people participated in the contestation at the first call for action. The number increased daily and calls for a second and third action gathered more and more people. In the third call for action, on December 1, 2018, an elderly woman was killed by cops and later that day a motorist was killed. The movement turned violent and civil unrest intensified. Based on news reports, rioters took advantage of the unrest and attacked a nearby Apple store. Within a month, the polls showed that the majority of the population agreed with the protestors. After four weeks, contesters caused President Macron to change the law and increase the minimum wages.

The White Dress Does Not Cover the Rape: Lebanon 2016-2017

The Lebanese government, like several other governments, used to enforce the rape-marriage law. Called Article 522, if a rapist marries the victim there will be no punishment for him. That article has faced several challenges and much opposition through time. It was amended in 1940, but there was no further reform afterwards. In November 2016 a woman with many bruises on her body wore a white dress and stood in front of the Lebanon parliament to show her contestation and ask for the abolishment of Article 522. That contestation soon turned into public protest. It got support from the Abaad MENA organization in December 2016 and several

women wore white dresses with bandages around their eyes. That dress code implies that the rape-marriage law is very discriminatory to women.

It should be noted that the Abaad MENA not only played a crucial role after the first contestation to abolish that law, but also had a key role in bringing awareness and education of the restrictive rape-marriage law to Lebanon's population. Saad Hariri, the prime minister, expressed his support for women's rights soon after the beginning of the contestation. Finally, people were able to get rid of the law in February 2017 when Article 522 was abolished in the parliament.

In the broader context, and in the field of IR, the "marry the rapist law" used to be a global law until late in the twentieth century when countries began to repeal it. Italy repealed it in 1981, Argentina in 2012, Ecuador in 2014, Jordan and Lebanon in 2017, and Palestine in 2018. Based on a World Bank report there are only 12 countries in which this law is still in force, primarily Middle Eastern and Asian countries. It is clear that the contagious transnational movement will reach to those remaining countries, and they will abolish the law. However, this is not possible without educating people in those countries. The results from the theoretical model in this study emphasize that education is the most important factor to abolish a harmful norm.

Contribution to the Extant Literature

There are several important contributions that this study makes to the field of political science generally, and specifically to the norm study literature. This study expands the existing theory in several areas.

The results from this work contribute theoretically to the constructivists' actor-level norm contestation theories. This study considered the possibility that powerless norm violators, in

contrast to the huge and significant body of literature, can be norm promoters. Although in recent years there has been a wave of attention given to studies of norm contestation by state actors and powerful strong actors, there has been much less attention to powerless non-state actors in the field. Thus, this research provides a unique theoretical contribution to constructivists' norm theory by advancing our understanding of the mechanism and dynamic process by which powerless actors' contestation occurs within a community and causes the emergence of new norms that affect state behavior. This group of actors is generally ignored by most IR scholars.

In addition, this study added a new linkage to the norm study literature by considering the reverse direction of causality. This research assumes that at an appropriate temporal point, the norm violation could trigger positive feelings rather negative feelings, which is the dominant belief in the field. In this case, violators encourage others to violate the norm for the sake of their interests rather than solely being punished and abandoned by their peers. Moreover, this study assumes that punishment can arguably intensify the violation rather being a prohibitor, based on the literature. There are cases of when a government imposes an unjustified punishment, or the punishment is too severe, and the citizen perception is of an inequality between the violation and its punishment. In those cases, government punishment may make people angry. Angriness increases risk taking and exceeds the fear of punishment at some point. Thus, in some instances, rather than punishment being a prohibitor, it is a facilitator.

This study not only has some important theoretical contributions but indeed makes a unique methodological contribution. The system dynamic modeling that I used to implement my conceptual model provides insight about the causes and explanations for the overall pattern of behavior. The norm study literature mostly focused on assessing and investigating from the individual's standpoint and the change in individuals' norm behavior. System dynamics modeling,

however, can find causes for norm emergence and individuals' behavior by facilitating understanding of the nonlinearities and the interactions of the different processes that come together to cause the overall patterns of behavior. In the previous chapter, I discussed that emergence of a new norm does have a nonlinear relation with initial violation and would not emerge due to merely having the first violation happen. Rather, there are several other processes that need to come together to fulfill the requirement for the emergence of a new norm. For example, in the norm-antipreneur scenario I investigate how, when the existence of sufficient education exists, the old norm can change the final outcome, even if the society encounters a first violation at the appropriate temporal time.

Policy Recommendations

This study provides one interpretation of the mechanisms and necessary structural factors that result in emergence of a new norm. In addition, I investigated some intervening events during this dynamic process, which are summarized in Table 21. The simulation runs provide some insightful results from which either government or contesters can benefit.

Table 21. An Overview of Each Scenario and Its Impact on New Norm Population

Scenarios	Parameters	Initial Value	Scenarios Values	Change in New Norm Population
Asymmetric Anger	Feeling of Anger	0.7	0 0.4 1	98.37 Percent Lower 56.61 Percent Lower 8.35 Percent Higher
Extreme Behavior Policy	Likelihood of Extreme Behavior	0.1	0.01 0.15	11.47 Percent Higher 73.79 Percent Lower
Norm Antipreneur	Percentage of Dissimilarity	0.05	0.15	32.19 Percent lower

One of the findings of this model is that there are contexts in which unjustified government punishment results in anger which, in consequence, increases risk taking and violation of norms. Based on the results from the asymmetric feeling of anger scenario, governments potentially need to be cautious when it comes to punishing violators. If punishing violators would be perceived as an illegitimate punishment, it could trigger feelings of anger and could backfire. Feelings of anger which result in more violating behavior have another side effect. They cause more people from outside of the group to notice the ongoing violation and, due to emotional ties, they may then perceive similarity and join the violators group which further weakens the old norm. Figure 79. illustrates these results.

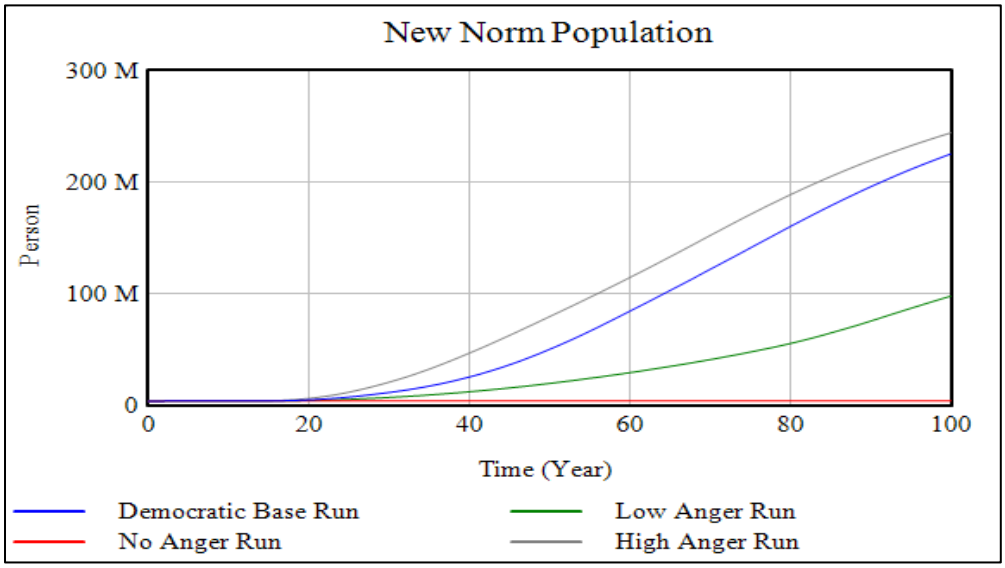

Figure 79. New Norm Population Change Under Asymmetric Feeling of Anger

Based on the results from the asymmetric feeling of anger scenario, governments need to act carefully when punishing violators, so the punishment is not perceived as illegitimate. Thus, governments usually seek a policy to justify their punishment and reduce the feelings of anger. One policy that has been used by governments or third parties is Faux Activists. I represent this with the Extreme Behavior variable in my model. The results from the model prove that more extreme behavior, during the collective action step, can change the outcome significantly, as was the case of our study in which the new norm population did not reach the tipping point in the 100-year time frame. In contrast, when the initial value for Likelihood of Extreme Behavior is insignificant during the collective violation, the emergence of a new norm happens sooner in comparison with the base run. This policy can also be used by the government to cover unjustified punishment and suppress the collective action with an excuse. People who organize the collective action must be cautious and act carefully to counter a faux activist policy as much

as they can and reduce its impact. Figure 80. depicts the results from the model runs with different values for Likelihood of Extreme Behavior.

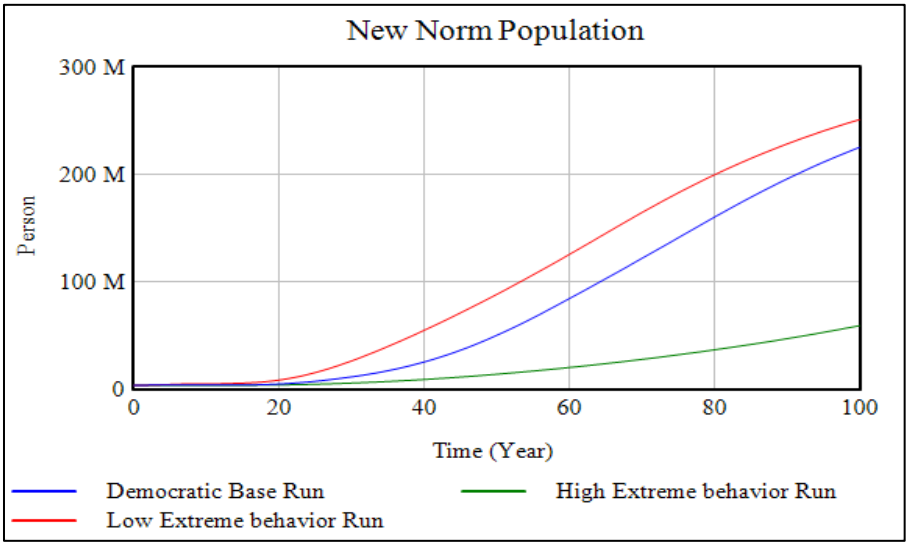

Figure 80. New Norm Population Change Under Asymmetric Extreme Behavior

The simulation model results show that norm antipreneurs could be used as a tool for governments to delay and/or prevent the emergence of a new norm. This group of agents are able to postpone the tipping point to around year 95. This is a significant delay of when the tipping point is reached and, indeed, the new norm population did not even equal half of the population by the end of the 100-year time scale. Thus, just as educating toward a new norm is fundamental for the emergence of a norm, educating toward an old norm can play an important but reverse role, of which the government or any competing group can take advantage.

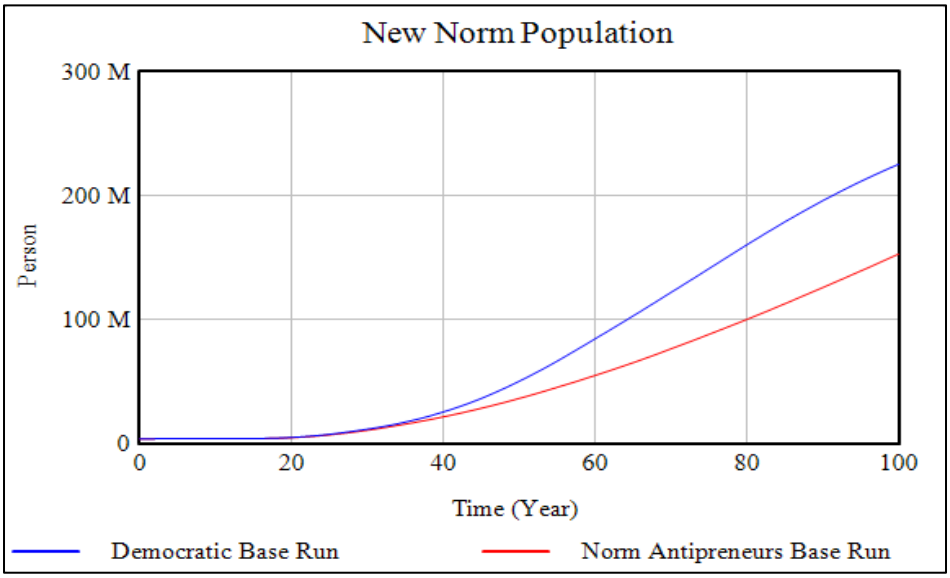

Figure 81. New Norm Population Change Under Asymmetric Norm Antipreneurs

Limitation of the Model

Even with the contributions that this theoretical model makes to the existing body of literature, the model presented in this study has some limitations and can be improved in some ways by future work.

First, the parameter "Likelihood of Extreme Behavior" in this version has been modeled as an exogenous constant variable. But it can be shown as a structure with more elaboration and details in which this parameter arises from other factors in the model, and that would facilitate study of more complex feedback loops.

Second, the flow rate "Stage 3. Percentage of Dissimilarity" right now represents the change in the population that returns from the violators group population to the old norm population. Arguably, this is too simple. The direction of this flow rate could be changed to include a percentage of violators who perceive dissimilarity with the new norm. Instead of returning to the old norm population they form another group of violators with a different goal.

Finally, ethical considerations of using the knowledge generated by this model can be considered another limitation of the model. Making decisions and behaving based on ethical values is not confined to personal domain—it also relates to the public realm including all decision making at the national and sub-national levels. Thus, it is crucial for policy analysts, senior advisers, or decision makers to provide knowledge and/or make policies that reflect the ethical values and responsibilities. Many believe that the main ethical consideration for policy makers is to choose a policy that aims to build a good society or to shift a society toward a better one—in other words, bring justice to the society. With that in mind, and considering the nature of this research, the model that is built in this research is a useful way to inform policy makers about the different policies and their consequences, like implementing faux activism/extreme behavior or enforcing more norm antipreneurs, but it poses its own drawbacks. Policy makers can use the knowledge that is generated by the model in negative e ways and cause a delay in the process of shifting a society toward a better one.

Areas for Future Work

During my investigation of different scenarios, I came up with some new insightful results that inspire further research.

First, the simulation model's results from the discursive-based weak norm scenario in a non-democratic culture were particularly interesting. Based on the model's results, the contestation of harmful norms gathers enough followers to reach the tipping point. The question for further research is, in non-democratic society, is it possible to change a norm when it is only a discursive- based weak norm and not practice based?

The system dynamic models in this study enable me to understand the dynamic structure and process that either a group of policy makers or contesters play, and the part each plays in the

overall structure. It even enables the derivation of related policy for these groups to use. However, a system dynamics model is less promising when it comes to investigating people's daily behavior under a contesting environment. An agent-based model would be better for studying individual behaviors. Thus, building a multiparadigm model that combines both system dynamics and agent-based modeling is another area for future study.

Finally, most of the initial values used in the model runs are derived from the literature and are a scientific-study-based guess. Using more real-world data could enable optimization of the model for particular norms and scenarios. This would provide better insight about different conditions and policies. Thus, another area for future research would be to collect empirical data with which to calibrate the model to fit particular instances or situations.

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