

**RADICALIZATION IN THE  
NATIONAL ECONOMIC CLIMATE:  
A LITERATURE REVIEW**

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## ABSTRACT

With the recent global economic downturn there has been concern that economic hardship may expose people to stressors that will act in concert with psychological processes to increase the likelihood of an individual's radicalization. This literature review examines the evidence that has been gathered from empirical studies to understand the relationships between radicalization, psychological processes, and the national economic climate.

## RÉSUMÉ

Dans la foulée du récent ralentissement économique, d'aucuns s'inquiètent de ce que les difficultés économiques risquent d'exposer les individus à des facteurs de stress qui, conjugués à des processus psychologiques, exacerberont la probabilité de radicalisation. La présente revue de la littérature s'intéresse aux éléments probants qui se sont dégagés des études empiriques et vise à clarifier les liens qui existent entre la radicalisation, les processus psychologiques et le climat économique national.

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## EXECUTIVE SUMMARY

**Introduction:** It has been the widely-held presumption that economic hardship leads to radicalization and may, in fact, be directly responsible for the radicalization of an individual. On the basis of direction from the Assistant Deputy Minister (Science and Technology) a two-year research program was initiated at Defence Research and Development Canada – Toronto to better understand radicalization and the national economic climate. This understanding is important for mitigating socio-economic factors that predict radical, extremist or terrorist behaviours. With this in mind, the ultimate audiences of this work are researchers, practitioners, and policy-makers whose aims are to safeguard the domestic security of Canadians.

This report seeks to explore two elements of routes to terrorism: the psychological processes involved and the impact of economic factors. Specifically, this review is concerned with empirical studies which elucidate the manner in which economic factors may exacerbate psychological processes to increase the likelihood that an individual will radicalize. With this base of knowledge, it will become clearer where further research is required, and where it will have the greatest impact. This knowledge will also inform steps that can be taken to mitigate deleterious effects of psychological and economic factors involved in radicalization before they take root.

**Methods:** A literature search and review was conducted based on keywords and concepts agreed upon with the Scientific Authority for the contract. The selected literature was synthesized to provide an integrated picture of the psychological processes that may be implicated in radicalization, the economic factors that may exacerbate these processes, and potential methods to de-radicalize individuals.

**Results:** A total of 121 documents were reviewed to investigate the belief that economic hardship could act on psychological processes to exacerbate the potential for radicalization. Little evidence was uncovered to suggest that this belief can be substantiated.

**Discussion:** Contrary to the populist view that economic hardship leads to radicalization, researchers in the area seem unequivocal in their conclusion that there is no link between economic factors and radicalization, and that many radicals are, in fact, economically advantaged compared to others in their communities. Instead, efforts to spot individuals at risk of radicalizing, and measures to combat radicalization, must be less prescriptive and based on more continuous evaluation and reinforcement of positive behaviours and beliefs.

## SOMMAIRE

**Introduction** – L’opinion populaire veut que les difficultés économiques mènent à la radicalisation et qu’elles peuvent même directement provoquer la radicalisation d’un individu. Sous la direction du sous-ministre adjoint (Science et technologie), un programme de recherche de deux ans a été mis sur pied à Recherche et développement pour la défense Canada – Toronto pour mieux comprendre le lien entre la radicalisation et le climat économique national. Il est important de comprendre le phénomène si l’on veut atténuer l’influence des prédicteurs socioéconomiques des comportements radicaux, extrémistes ou terroristes. C’est dans cet esprit que le présent rapport s’adresse aux chercheurs, aux praticiens et aux décideurs qui souhaitent préserver la sécurité des Canadiens.

Le présent rapport examine deux composantes du parcours vers le terrorisme : les processus psychologiques et les facteurs économiques à l’œuvre. Plus précisément, cette revue s’intéresse aux études empiriques qui élucident la façon dont les facteurs économiques sont aptes à exacerber les processus psychologiques et accroître ainsi la probabilité de radicalisation d’un individu. Forts de ces connaissances, nous pourrions mieux cibler les futurs travaux de recherche et déterminer les sphères sur lesquelles ces composantes auront le plus d’incidence. Ces connaissances éclaireront aussi les mesures à prendre pour atténuer les effets néfastes des facteurs psychologiques et économiques qui jouent sur la radicalisation avant qu’ils ne s’installent.

**Méthodes** – Nous avons effectué une recherche et une analyse documentaires à l’aide de mots-clés et de concepts convenus avec l’autorité scientifique responsable du contrat. Nous avons synthétisé les travaux choisis pour obtenir un tableau complet des processus psychologiques qui pourraient contribuer à la radicalisation, les facteurs économiques qui pourraient exacerber ces processus et les méthodes aptes à déradicaliser les individus.

**Résultats** – Nous avons examiné 121 documents pour mettre au clair la croyance voulant que les difficultés économiques pouvaient agir sur les processus psychologiques et exacerber le potentiel de radicalisation. Nous avons trouvé peu d’indications que cette croyance est justifiée.

**Analyse** – Ainsi, contrairement à la croyance populaire selon laquelle les difficultés économiques mènent à la radicalisation, les chercheurs semblent unanimes à conclure qu’il n’existe aucun lien entre les facteurs économiques et la radicalisation et que bon nombre de radicaux sont, en fait, privilégiés sur le plan économique par rapport aux autres membres de leur collectivité. Par conséquent, les tentatives de cerner les individus qui sont susceptibles de se radicaliser et les mesures destinées à combattre la radicalisation doivent être moins prescriptives et se fonder sur une évaluation suivie et un renforcement des idées et des comportements positifs.

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## 1 INTRODUCTION

*“At the bottom of terrorism is poverty. That is the main cause”* (Kim Dae-Jung).

*“They can’t blame it on poverty or any of that stuff. They will have to realize that it’s an ideology and it’s a way of life. They will also have to realize that their political agendas need to be fixed”* (Omar Hammami).

The two quotes above illustrate the great variance of opinions regarding factors that lead to radicalization. It is not too strong a statement to say that the sentiment expressed by Kim Dae-Jung<sup>1</sup>, above, is accepted by many people in the Western world. Indeed, it can be considered a truism since the claim is so self-evident, so obvious, so beyond debate, that it is hardly worth pointing out. But is it? Do the radicals and terrorists that increasingly affect the way we carry out our everyday lives hate us so much because they have grown up in poverty and have lacked the good education and opportunities that we have enjoyed? This explanation finds a willing audience in the first-world, the industrialized West and its allies, but is this merely a convenient explanation that appeals to our sense of superiority due to our relative affluence and sophistication, as well as invalidating the grievances of the terrorists and rendering them little more than criminals?

Although the simple logic of “poverty leads to terrorism” is still attractive during discussions addressing terrorism, policy-shapers and decision-makers are increasingly shying away from making such simplistic claims about the relationship between poverty and the likelihood of an individual engaging in anti-social or violent activity to draw attention to their ideological agenda. Indeed, this is the sentiment of the second quote that starts this report, which was expressed by the American-born and Alabama-raised Omar Hammami, who is now a member of the Somali paramilitary group Al-Shabaab. Research on the relationship between poverty and terrorism has repeatedly shown that “the data obviate the conventional assumption that the Extremists are simply the “have-nots”, suggesting rather that they are the “want-mores” (Lerner, 1958).

*“Terrorists in general have more than average education, and very few Western terrorists are uneducated or illiterate... Older members and leaders frequently were professionals such as doctors, bankers, lawyers, engineers, journalists, university professors, and mid-level government executives”* (Hudson, 1999).

During a large sociological study of urban terrorists published in 1983, Russell and Miller analyzed more than 350 individual terrorists from around the world who were active between 1966 and 1976. Russell and Miller found that “...approximately two-thirds of those identified terrorists are persons with some university training, university graduates or postgraduate students.” As well as speaking to their education, these two studies imply that extremists, radicals and terrorists are relatively affluent, if not by Western first-world standards, at least by the standards of their own communities and nations. Hassan (2001) reinforces this view in the results of her interviews with nearly 250 terrorists and associates of terrorists:

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<sup>1</sup> Former President of South Korea and recipient of the 2000 Nobel Prize in Peace for his work for democracy and human rights in South Korea and East Asia, for peace and reconciliation with North Korea.

*“None of them were uneducated, desperately poor, simple-minded or depressed. Many were middle class and, unless they were fugitives, held paying jobs. More than half of them were refugees from.... Two were the sons of millionaires.”*

And as reported in the New York Times by Jodi Wilgoren (2001):

*“They (the terrorist hijackers) were adults with education and skill ... spent years studying and training in the United States, collecting valuable commercial skills and facing many opportunities to change their minds ... they were not reckless young men facing dire economic conditions and dim prospects but men as old as 41 enjoying middle-class lives.”*

Nevertheless, a change in the public belief regarding the genesis of terrorism and terrorists will come about if the media report the facts based on research and investigation, rather than limiting itself to the rhetoric and hyperbole of politicians.

Can poverty be eliminated as a root cause of radicalism, extremism and terrorism? On the basis of the commentary above: yes. However, it is likely that the evolution of a terrorist is more complex than a simple uni-dimensional cause-and-effect relationship. Thus, the impact of economic conditions may serve as a factor in some process, or even a catalyst for that process.

Both Hassan (2001) and Wilgoren (2001), above, allude to the fact that terrorists are not marginalized individuals with underlying psychological conditions. On the basis of these two reports, we might eliminate psychological conditions such as pure psychopathology, schizophrenia and various impulse control disorders which are often associated with criminal, anti-social activities like murder and rape. If nothing else, individuals with these psychological conditions do not have the attention span, commitment, or course of action to conceive of and carry out terrorist activity. However, as with the belief that terrorists are from poverty-stricken backgrounds, the belief that terrorists are “evil cowards” (George W Bush, as cited by CNN, 2001) who “are not rational and are not deterred by rational concepts” (John Warner, US Senator; as cited in Zimbardo & Boyd, 2008) persists, and will continue to persist until a convincing argument against that explanation is accepted and passes into the populist worldview.

The persistent belief that terrorists are irrational raises the question of whether there are psychological conditions or processes that can be strongly implicated in the radicalization of an individual. If such a psychological background exists, then it would be possible to develop screening devices to identify vulnerable individuals and therapies to reduce the likelihood that they will turn to violent action. The psychological literature contains myriad potential explanations for aspects of an individual’s turn to violent extremism. Some of these explanations have been explicitly linked to the evolution of a terrorist; others are yet to be implicated.

It is equally likely, however, that there is scant evidence to suggest a psychological condition or process that accounts for an individual’s choice to radicalize. Instead, there may be a combination of factors, or “routes” by which a person radicalizes—one that depends significantly on the confluence of a variety of external mediators, including culture, family, education, political circumstances, and economic circumstances, with psychological variables.

This report seeks to explore two elements of routes to terrorism: the psychological processes involved and the impact of economic factors. Specifically, this review is concerned with empirical studies which elucidate the manner in which economic factors may exacerbate psychological processes to increase the likelihood that an individual will radicalize. With this base of knowledge, it will become clearer where further research is required, and where it will have the greatest impact. This knowledge will also inform steps that can be taken to mitigate deleterious effects of psychological and economic factors involved in radicalization before they take root.

The impetus for this report came from the Assistant Deputy Minister (Science and Technology) (ADM(S&T)), who specifically requested that Defence Research and Development Canada – Toronto (DRDC-T) investigate the relationship between the national economic downturn and the risk of radicalization within Canada. It has been the widely-held presumption that economic hardship leads to radicalization and may, in fact, be directly responsible for the radicalization of an individual.

On the basis of direction from the ADM(S&T) a two-year research program was initiated at DRDC Toronto. As well as the current literature review, DRDC Toronto hosted a multi-disciplinary workshop to better understand radicalization and the national economic climate and performed a quantitative data analysis of socio-economic indicators and incidence of radicalization. This analysis is important for understanding socio-economic factors that predict radical, extremist or terrorist behaviours. With this in mind, the ultimate audiences of this work are researchers, practitioners, and policy-makers whose aims are to safeguard the domestic security of Canadians.

## 2 METHODOLOGY

*"The difficulty lies, not in the new ideas, but in escaping the old ones, which ramify, for those brought up as most have been, into every corner of our minds."*  
(John Maynard Keynes)

It seems fitting that a quote by an economist introduces a discussion of the methodologies employed for this review. As noted in the introduction, the default popular opinion about terrorists is that they are poor and clinically insane. In order to examine whether these ideas have merit and, if not, to suggest alternative explanations, this review has attempted to clarify what is known and what is not known about the relation between economic factors and radicalization. This is an important step in the research process, as a lot of what we think we know about radicalization is based on opinion rather than fact. Thus, exploring the literature will help us better understand the processes of radicalization, suggest follow-up research and ultimately inform policy.

### 2.1 Research questions

The primary objective of this literature review was to describe the current social scientific literature on the topic of economic factors related to radicalization. In order to explore how radicalization and economic factors are related, this review focused on four interrelated research questions: (a) what are the psychological variables and processes involved in radicalization and violent extremism; (b) are economic factors and radicalization related and, if so, (c) what psychological processes are involved in this relationship, and (d) how can we use that knowledge to inform the prevention of radicalization?

### 2.2 Definition

The study of radicalization is a relatively new field, but at the same time influenced by previous studies. For example, radicalization research draws on several related areas of study, including gang research, criminology, political violence, religious studies, sectarianism and extremism, among others. Moreover, the study of radicalization is not confined to one single discipline. Instead, psychology, anthropology, sociology, economics, political science and several other academic disciplines have an interest in the phenomenon. Not surprisingly then, radicalization does not have a single definition. This review has followed the proposed definition by Mandel (2009), in accordance with contract specifications. Mandel's definition ("Radicalization refers to an increase in and/or reinforcing of extremism in the thinking, sentiments, and/or behaviour of individuals and/or groups of individuals") is interesting as it suggests that radicalization is a process, not a syndrome. This definition proved very useful for this review, and forms a thread throughout several sections of this report. Moreover, because this definition does not constrain itself to a specific kind of extremism, the report includes studies on historical extremism. Last, this definition did not limit the authors to a specific paradigm or discipline, thus allowing the researchers to include a broad selection of literature, based on such diverse paradigms as rational choice, Relative Deprivation and psychopathology.

## 2.3 Literature Search

The literature search methodology was developed to systematically scan databases for relevant documents. The keyword and database choice reflect the methodological goal to search both deeply for very specific content, and broadly for contextual data. Thus, several databases were specifically targeted for their selection on psychology or economics, while others were chosen for their broad inclusion of other disciplines. The keyword list was designed based on the DRDC Toronto’s defined research interests and the derived research questions.

**Table 2-1: Keyword Combinations Used in this Review**

Keyword 1	Keyword 2	Keyword 1	Keyword 2
<b>Poverty</b>	terrorism	<b>Deprivation</b>	
	terrorist		terrorist
	radicalization		radicalization
	political violence		political violence
	radical groups		radical groups
	extremism		extremism
	extremist groups		extremist groups
	social behavior		social behavior
	intergroup behavior		intergroup behavior
	socialization		socialization
	social identity		social identity
<b>Economy</b>	ideology	<b>Economic Growth</b>	ideology
	terrorism		terrorism
	terrorist		terrorist
	radicalization		radicalization
	political violence		political violence
	radical groups		radical groups
	extremism		extremism
	extremist groups		extremist groups
	social behavior		social behavior
	intergroup behavior		intergroup behavior
	socialization		socialization
<b>(Relative)</b>	social identity	<b>Economic crisis</b>	social identity
	ideology		ideology
	terrorism		terrorism

Keyword 1	Keyword 2
	terrorist
	radicalization
	political violence
	radical groups
	extremism
	extremist groups
	social behavior
	intergroup behavior
	socialization
	social identity
	ideology
<b>Political economy</b>	terrorism
	terrorist
	radicalization
	political violence
	radical groups
	extremism
	extremist groups
	social behavior
	intergroup behavior
	socialization
	social identity
	ideology
<b>Psychology</b>	terrorist
	terrorism
	political violence
	radical groups
	extremism
	extremist groups
	social behavior
	intergroup behavior
	socialization
<b>Terrorism</b>	relative

Keyword 1	Keyword 2
	deprivation
	social identity
	ideology
	recession
<b>Sociology</b>	terrorism
	terrorist
	radicalization
	political violence
	radical groups
	extremism
	extremist groups
	social behavior
	intergroup behavior
	socialization
	social identity
	ideology
	crime
<b>Rational Choice</b>	terrorism
	terrorist
	radicalization
	political violence
	radical groups
	extremism
	extremist groups
	social behavior
	intergroup behavior
	socialization
	social identity
	ideology

The literature was subsequently evaluated on several criteria. First and foremost, sources included in the review addressed one of the following questions:

- What are the psychological variables and processes involved in radicalization and violent extremism?
- What are the psychological variables and processes involved in radicalization and violent extremism that are particular to economic distress or might be exacerbated under economic distress?
- What are the economic factors that may increase radicalization among groups—whether on a psychological, social or political level?
- What are the psychological variables and processes involved in preventing radicalization and de-radicalizing, particularly as they refer to economic factors?

High priority was given to sources that focused on the Canadian context (e.g., looking at terrorism and economic distress in Canada); however, these sources were relatively rare. Research from populations in other countries has started to explore this issue and these sources were included for review. Further, the researchers erred on the side of over-inclusion. When papers were related to one of the above research questions, providing context or background but no direct data, they were included in the literature review. Similarly, when papers provided insights in a related field of study (e.g., hate crimes or gang research) they were also included. Last, the researchers made a final selection of the literature based on academic quality for the reason that a review and analysis can only be as good as the sources used. Accordingly, the researchers rejected some papers that used inaccurate or dated datasets, or research methods with questionable validity.

## 2.4 Limitations of this review

It should be noted that this review is necessarily limited for several reasons. First, the report attempts to answer very complex research questions, and complex questions tend to result in complex answers. This report provides an overview of the available literature on the possible relation between economic factors and radicalization, rather than treating any one area of research comprehensively.

The second reason this review is limited is the fragmented nature of research in this area. According to one influential report, research is fragmented in at least four important ways: by academic discipline, by the divide between theory and empiricism, by the methodological approach to this issue, and by level of analysis (Noricks, 2009). It is worth briefly considering each of those components.

- **Academic discipline.** Economists study and analyze economic phenomena very differently from political scientists, anthropologists or psychologists. Each discipline provides important perspectives, yet alone they are unable to provide a comprehensive understanding of a problem of this scope and complexity.

Compounding the problem, disciplinary perspectives can be difficult to merge. Different academic disciplines not only use very different constructs and language to explain a certain phenomenon, but also rely on very different assumptions on how to approach, describe, analyze and explain a certain problem. For example, anthropological fieldwork on the informal economy of criminal groups may help us understand very important aspects of radicalization research, as can comparative cross-country econometric analyses, or personality trait analyses. However, none of these approaches are able to provide a complete and unambiguous answer, and finding the linkages connecting these differing disciplinary perspectives can be an extremely challenging task.

- **Theory versus empiricism.** A given theory may look good on paper or have “common-sense” appeal. However, if it is not supported by empirical data, the theory should be refuted. Likewise, if a theory is built on assumptions that do not correspond with the reality that is being studied, results are questionable. Unfortunately, the area of radicalization and terrorism studies is one that is particularly vulnerable to “water-cooler opinions”. In addition, there are numerous empirical concerns with collecting and reporting data. There can be ethical considerations about the data one collects when investigating radicalization. Even if a risk-group or personality type for radicalization could be positively identified, academic research on individuals or groups should always involve informed consent (with the possible exception of material in public archives), in accordance with ethical guidelines set by the respective academic discipline. Another concern with empirical data is that it is rather difficult to obtain. As Crenshaw (1981), for example, points out:

*If our interest is in identifying potential terrorists by predicting behavior from the existence of certain consciously held attitudes and beliefs, then the best method would be to survey a young age group in a society determined to be susceptible. If terrorism subsequently occurred, we could then see which types of individuals became terrorists. (A problem is that the preconditions would change over time and that precipitants are unpredictable.) The more common and easier way of investigating the attitudes-behavior connection is to select people who have engaged in a particular behavior and ask them questions about their opinions. Yet attitudes may be adopted subsequent, rather than prior, to behavior, and they may serve as rationalizations for behavior engaged in for different reasons, not as genuine motivations. These problems would seem to be particularly acute when the individuals concerned have engaged in illegal forms of political behavior.*

- **Methodological approach.** Studies differ in how they are designed, what is studied, how it is being measured, and for how long. For example, qualitative studies that analyze Relative Deprivation among members of a neighbourhood use different methodological instruments from studies analyzing the occurrence of terrorism per Gross Domestic Product (GDP). Results, not surprisingly, may differ and cannot be compared easily.
- **Level of analysis.** Many studies on this topic have looked at the effects of economic change on national or regional data on terrorism. However, for methodological reasons concerning the validity of findings, one cannot simply assume that what happens on one level of analysis necessarily holds true on another. Thus, one cannot assume that

something that holds true on a country level holds true on a provincial, city, village, or individual level.

Regardless of these challenges, the report provides a “state of academic research” on the topics of radicalization, the psychological factors associated with radicalization, and the manner in which the national economic downturn can affect radicalization. For the purposes of this review, this state is comprised of two facets: psychological and economic factors. The psychological processes and variables that have been implicated or may prove relevant to radicalization are introduced and discussed in the next section.

### 3 PSYCHOLOGICAL VARIABLES AND PROCESSES INVOLVED IN RADICALIZATION AND VIOLENT EXTREMISM

*“The typology of terrorism is complex and controversial since actors can be characterized across multiple variables” (Victoroff, 2006).*

*“Much of the thinking about the terrorist is still rooted in assumptions about profiling, while...no terrorist profile has yet been found – not only between members of different terrorist movements but also among members of the same particular movement” (Horgan, 2008).*

#### 3.1 Introduction

Radicalization and violent extremism are not new phenomena (Merari & Friedland, 1985); these behaviours have occurred throughout history. During the latter part of the twentieth century, the number of terrorist attacks increased significantly from previous years. These, coupled with the events of September 11, 2001, have prompted political scientists, economists, anthropologists, psychologists, and sociologists to try to understand why people choose to engage in violent extremism. Although there has been a great deal of work examining this question, there does not appear to be one definitive answer. Given the incredible complexity of radicalization and violent extremism and the number of possible variables implicated in radical, extremist, and terrorist behaviour, it is unlikely that researchers will ever construct a simple theory of radicalization leading to extremism and terrorism that is grounded in one discipline. Rather, a theory of the causes of terrorism likely will include political, religious and economic factors as well as psychological processes. This section provides a review of the psychological variables and processes that have been proposed as a basis of radicalization and violent extremism.

#### 3.2 Rational Actor Model

The **Rational Actor Model** (Kahler, 1998) is based on rational choice theory (Downs, 1957). In the context of radicalization, this theory adopts the individual as the primary unit of analysis and his or her decision-making process associated with radicalization. The assumption is that, in any given situation, the individual makes rational decisions based on preference ranking and value maximization. The decision made by an individual may be affected by some or all of the following:

- Goal setting and ranking;
- Consideration of options;
- Assessment of consequences;
- Profit maximization.

The Rational Actor Model is primarily a paradigm by which we consider the actions of others. Intuitively, people may choose not to apply the Rational Actor Model to radicalization, since many of us would believe that it is not possible to arrive at the decision to engage in such anti-social acts through rational decision making.

**Rational Choice Theory** (Downs, 1957) posits that patterns of behaviour in societies reflect the choices made by individuals as they try to maximize their benefits and minimize their costs. The theory, however, assumes that the individual has full or perfect information about the consequences of any choice made. The theory also assumes that the individual has the time and ability to weigh every possible choice against every other possible choice. Of course, in the real-world these two assumptions are unlikely to be true, leading Simon (1955) to propose the theory of Bounded Rationality.

**Bounded Rationality** (Simon, 1955) states that the rationality of individuals is limited by the information they have, their cognitive capabilities, and the amount of time they have to make decisions. Because of these constraints, Bounded Rationality proposes that decision-makers seek only a satisfactory solution to whatever situation they are facing (i.e., *satisfice*) rather than an optimal solution. Bounded Rationality also reflects the finding that individuals attach extra value to items they already own, compared to similar items owned by others (i.e., the “*Mere Ownership Effect*”; Nuttin, 1987). In the context of radicalization, this sense of ownership would refer more to concepts, beliefs and morals than to physical objects. Thus, one may predict that an individual raised to believe a certain story will apply more weight or credence to groups sharing at least elements of that story, making them more likely to radicalize or be recruited by a radical group sharing their belief set. The Rational Choice and Bounded Rationality theories have been applied to economics and risky, gambling-type behaviours (i.e., any activity in which the participant makes decisions on low probabilities of success). Similar theories include Prospect Theory (Kahnemann and Tversky, 1979) and Expected Utility Theory (Bernoulli, 1738) in that the action taken reflects the perceived value of the potential outcome. With respect to radicalization, individuals are willing to pursue extreme measures because they perceive the issue to be extremely important.

The primary concern with attempting to apply any sort of rational decision-making model to radicalization, whether concerning expectations, outcomes, ignorance, or decisions, is that humans rarely act rationally, either in a mathematically-defined manner or in an emotional sense. Moreover, Bounded Rationality theory does not take into account the social and cultural factors in which individuals act. Although Bounded Rationality could be used to explain some elements of radicalization, the fact remains that not all people with some sympathy or common belief set with a radical group become radicals themselves.

### 3.3 Relative Deprivation

**Relative Deprivation** (Runciman, 1966) is a situation in which a person or group is deprived of something to which they think they are entitled, while another person or group possesses it. The deprivation is relative between the two parties as a person or group possesses the item while the other does not. This results in discontent on the part of the individual or group and may lead to feelings of stress, political agitation (i.e., lobbying for change in an antagonistic manner) and participation in collective action. Key to Relative Deprivation is the belief, on the part of the individual or group, that they are making a valid comparison (i.e., they are comparing “like with like”; Runciman, 1966). In so doing, it is unlikely that they are rational actors, since they are likely to be making comparisons along a single shared dimension, rather than along multiple other relevant dimensions. Thus, such comparisons would likely be invalid (Runciman, 1966).

Relative Deprivation is attractive because it can be found all around the world, at all strata in the socio-economic landscape. As such, it could be an explanation for why radicals and terrorists are often well-educated and affluent (relative to their own society), but nonetheless feel aggrieved due to their condition, relative to some other group. Relative Deprivation can also be vicarious, where an individual makes the attribution on behalf of others (for whom they presumably feel some connection at an emotional level) and becomes outraged on their behalf, thus radicalizing and engaging in anti-social activities (Runciman, 1966). Guimond and Dube-Simard (1983) looked at Relative Deprivation amongst citizens in Quebec as a possible way of explaining nationalism. They found that fraternal Relative Deprivation (i.e., group discontent) was positively related to a global index of nationalism. However, egoistic Relative Deprivation (i.e., personal discontent) was unrelated to the index of nationalism. These results indicate that fraternal deprivation was more important than egoistic deprivation in explaining the incidence of protest movements in Quebec (which were primarily concerned with nationalism).

Many commentators (see Gauthier and Lamoureux, 2010) put forward Relative Deprivation as the most likely explanation for radicalization, in particular radicalization that occurs during a period of economic recession or depression. However, Relative Deprivation does not sufficiently explain why some people who make these comparisons do radicalize and others do not, nor does it explain why some feelings of Relative Deprivation cause people to act while other feelings of deprivation do not. Relative Deprivation is also insufficient to explain the cases in which individuals radicalize without any sense of deprivation. Indeed, it may be that, as hypothesized in the case of the Guimond and Dube-Simard's (1983) study, Relative Deprivation actually taps into some other community sense of shared identity (i.e., a positive characteristic), rather than hardship.

### 3.4 Psychopathy

There is a belief that people who commit terrorist acts are “crazy”, “evil cowards”, “insane” and “not rational” (Atran, 2003). These generalizations can be attributed in part to the Fundamental Attribution Error which posits that people over-emphasize individual attributes as explanatory reasons for observed behaviours of others while ignoring situational explanations for those behaviours (Jones & Davis, 1965). Some researchers have suggested that terrorists are psychopaths and sociopaths who are unable to effectively self-monitor (e.g., see; Cooper, 1977; 1978; Pearce, 1977; Taylor, 1988). However, there is no empirical evidence to support these ideas (Victoroff, 2005; Pressman, 2009). In fact, Pressman (2009) performed a comparative analysis of the features of antisocial behaviour, psychopathy, dissocial personality disorders, and violent extremists and found very few common features among sociopaths, psychopaths and extremists. For example, individuals who are diagnosed as being psychopaths exhibit callous unconcern and lack of empathy for others. Extremists, on the other hand, are analytical and deeply committed to their cause, and many recruiters for extremist groups display exceptional charisma.

Additionally, Miller (2006) purports that terrorists possess positive psychological attributes, a proposition that agrees with Pressman's (2009) that they are not psychopaths. For example, members must be reliable, trustworthy, and loyal to the ideology of the organization. Members must cope with the pressures of living a secretive, double-life and, if caught, must be strong enough to withstand interrogation and torture. Miller argues that the terrorists have

characteristics similar to those of undercover police officers, organized crime operatives and others who live secret lives. Scholars have also found that terrorist groups often reject antisocial or psychopathic recruits because they attract unwanted attention to the group (Miller, 2006; Victoroff, 2005; Pressman, 2009).

Additionally, Victoroff (2006) and della Porta (1988) argue that *prosociality* rather than *antisociality* may be part of a terrorist's make-up. For example, della Porta interviewed 1,214 Italian militants and 45% indicated that they knew and socialized with at least eight members of the group prior to joining. This suggests that recruits have shared interests, values, concerns, and morality.

In sum, psychopathy does not appear to be a viable explanation for why people choose to radicalize and subsequently engage in violent extremism. There is no empirical support for this belief and in fact it has been argued that terrorists are psychologically resilient and share similar social values as non-terrorists (Victoroff, 2006). If terrorists are not crazy, psychopaths or antisocial, what other factors are likely involved in the psychological make-up of a terrorist? The following section examines the role that personality traits may play in radicalization and violent extremism.

### 3.5 Personality Traits

It has been suggested that certain personality traits may be common among people who choose to radicalize (e.g., see Taylor, 1988; Taylor & Quade, 1994). As mentioned above, empirical research does not support the notion that terrorists tend to exhibit psychopathology. Nonetheless, there remain authors who propagate this belief. For example, it has been suggested that terrorists are motivated by personality disorders such as narcissistic personality disorder, borderline personality disorder, avoidant personality disorder or paranoia (Miller, 2006). Miller goes further by classifying terrorist leaders and non-leader group members into specific personality typologies. According to Miller, leaders fall into one of two categories: narcissistic or paranoid. The narcissistic personality-type leader has a sense of entitlement, is arrogant and charming, does not empathize with others, wants to be liked and admired, and is very enthusiastic about the group's cause. The narcissistic leader also gives orders with the expectation that followers will obediently carry out the orders. On the other hand, paranoid personality-type leaders are suspicious of others' activities, deceptive, malevolent, lack charm and are paranoid that everyone is out to get them. Miller argues that the paranoid person is a far more dangerous terrorist leader than the narcissistic leader. This is because the paranoid leader believes that committing any act (regardless of the level of violence) is warranted and necessary. We also speculate here that the narcissistic leader renders him/herself less effective as a terrorist because he craves the attention associated with making public pronouncements and wants to be seen to "outsmart" the adversary, thereby giving more insight to the security services into his plans and actions.

Additionally, Miller (2006) outlines a variety of group member personality typologies. Group members are classified as (a) true believers, (b) unstable deceivers, (c) good soldiers, (d) worker bees, (e) limelight seekers, or (f) loose cannons. It is important to note that Miller's personality categorizations have not garnered empirical support, but they are presented here as one perspective on typologies of group members. True believers and unstable deceivers have

borderline and/or antisocial personalities. Group members with borderline personalities have pervasive instability in moods which can lead to alternating between idolizing and devaluing other group members, they are impulsive, have rapidly shifting moods, separation anxiety, unstable self-image and chronic feelings of emptiness that may drive them to seek out situations that provide stimulation either through provocation or escalating conflicts. Due to the instability in their moods, members with this personality disorder can be very unreliable. However, during periods of intense idolization, members can be used to carry out dangerous terrorist acts such as suicide bombings (Miller, 2006).

A second personality typology seen in true believers and unstable deceivers according to Miller (2006) is the antisocial personality. Antisocial personality disorder is characterized by failure to conform to social norms with respect to lawful behaviour, deceitfulness, impulsivity, irritability, aggressiveness, irresponsibility, and a lack of remorse (Miller, 2006). It is a matter of some debate whether antisocial personality disorder is a psychopathy, or psychopathy is an antisocial personality disorder, or whether the two are related at all (Blair, Mitchell and Blair, 2005). Antisocial individuals may join a terrorist group for the thrill of being able to hurt or mistreat helpless people. This remorseless behaviour makes these individuals prime candidates to take on the roles of assassins or bombers within the group (Miller, 2006). Antisocial personality types are not often loyal to the ideologies of the group and if they are caught by authorities; there is a very good chance that they will betray the group and share intelligence (Miller, 2006).

Miller (2006) maintains that good soldiers and worker bees generally have avoidant or dependent personalities. Avoidant personality is a condition characterized by extreme shyness, feelings of inadequacy and sensitivity to rejection (American Psychiatric Association, 2000). Individuals who present with this personality would likely not become engaged in the violent activities but rather they would provide background support. Some soldiers and worker bees may have a dependent personality type (Miller, 2006). This personality type is characterized by an over-reliance on others that leads to submissive and clinging behaviours and fears of separation. These personality types are useful to terrorist groups because they tend to be very loyal to leaders and their clinging behaviours can be exploited by leaders because dependent personality members will be resolute and persistent. Both Miller (2006) and Strentz (1988) argue that borderline and dependent personality types make the best terrorist group members. The ideologies of the group provide these individuals with a sense of meaning making them very loyal and committed members.

At first glance, these group leader and member personality typologies seem to provide a plausible psychological make-up of terrorists. However, research has shown that terrorists *do not* have similar personality types depending on the role that they play within the group (Clark, 1983; Corrado, 1981; Jamieson, 1989; Lyons & Harbinson, 1986; and Rasch, 1979). For example, Clark used detailed case history data of 48 Basque insurgent members from the Euzkadi ta Askatasuna (ETA) and less detailed history for 447 other ETA members. He found that all members were psychologically normal, did not suffer from personality disorders, and all members had the support of family members. Similarly, Corrado (1981) and Jamieson (1989) interviewed members of the Italian Red Brigades and they reported that members did not present with any psychological abnormalities or consistent themes with respect to personality types. In fact, Jamieson found that these terrorists had “great intelligence, great openness and

great generosity” and that they did not fit into any “particular sociological or psychological group” (Jamieson, 1989).

Lyons and Harbinson (1986) compared 47 political murderers to 49 non-political murderers. The results showed that the political murderers had generally more stable backgrounds, had much lower rates of alcohol abuse, and were more mentally stable than non-political murderers. They also showed a variety of personality types.

Horgan (2003) summarized these findings by saying:

*...despite their attractiveness (via the simplicity any potential results would imply), personality traits are useless as predictors for understanding why people become terrorists.*

Although specific personality traits are not good predictors of which people choose to radicalize, under certain and specific circumstances, they may be contributing factors in the process of radicalization (Kruglanski & Fishman, 2006). The following section will examine this hypothesis as well as some other proposed theories of radicalization.

### **3.5.1 Sensation Seeking**

Sensation seeking, sometimes called excitement seeking, is the tendency to pursue sensor pleasure and excitement and is the trait of people who seek novelty, complexity and intense sensations, who love experience for its own sake, and who may take risks in the pursuit of such experience (Miller, 2006). Sensation seeking is divided into four traits: thrill and adventure seeking, experience seeking, disinhibition, and boredom sensitivity (Zuckerman, 2007). We hypothesize here that, in the past, many young people have been forced into sensational situations, such as war. Although war never ceased around the world, many contemporary radicals will have grown up in relatively stable societies. Radical action may satisfy the need for excitement and intense sensations where previously a war would have satiated that need. However, many people satisfy their predisposition toward sensation seeking by taking up extreme sports, riding roller-coasters, or similar activities that are considered risky or provide an adrenalin rush. The personality trait of sensation seeking does not explain why some people choose to engage in anti-social activities over these other options.

## **3.6 Theories of Radicalization**

A number of authors are starting to explore *how*, rather than *why*, radicalization occurs (e.g., Horgan, 2006, 2008; Kruglanski & Fishman, 2006). This section summarizes the current theories of the routes to radicalization.

### **3.6.1 “Syndrome” Versus “Tool” Perspectives**

The syndrome perspective is rooted in the medical model such that it defines radicalization and terrorism as a “disease” with specific symptoms, causes and, arguably, cures (Kruglanski & Fishman, 2006). This approach articulates that the path to radicalization is the same for everyone and that the power structure of terrorist groups is identical across groups (Kruglanski

& Fishman, 2006). The previous sections (sections 3.4 and 3.5) described many of the “syndrome” approaches to terrorism.

Additionally, researchers have looked to “root causes” of terrorism. Root causes are believed to be at the core of terrorism and include socioeconomic status, age, education, economic conditions and religion (e.g., Blomberg, Hess, & Weerapana, 2004; Krueger & Malečková, 2003; Piazza, 2006). Support for this research is mixed. Blomberg et al. (2004) found higher rates of terrorism in democratic, high income countries and that economic recessions led to an increase in terrorism. Conversely, Krueger and Malečková (2003) found that poverty or an increase in education were not strong predictors of terrorism. Piazza (2006) also found that terrorism was unrelated to a number of economic variables including unemployment, calories per capita, GDP per capita, and GDP growth. These findings suggest that economic and other root causes are neither sufficient nor good predictors of radicalization and terrorism.

Kruglanski and Fishman (2006) note that the logic behind the root causes approach came from the Relative Deprivation and frustration aggression hypotheses. Kruglanski and Fishman explain that Relative Deprivation of economic or educational opportunities can lead to frustration. This frustration may manifest itself in aggressive behaviours such as terrorist activities. Kruglanski and Fishman question this notion, suggesting that frustration can also lead to non-violent behaviours such as peaceful protest or advocacy. Sageman (2004) argues that many people experience Relative Deprivation but very few actually radicalize and resort to violent extremism.

In sum, syndrome and root cause approaches have produced very little empirical evidence or support. Kruglanski and Fishman (2006) suggest that even though syndrome and root causes are insufficient for explaining the process of radicalization, they can be relevant *contributing factors* to the radicalization process. The difference between a root cause and a contributing factor is that contributing factors can be correlated with radicalization under specific circumstances. In other words, “none of these factors is a sufficient or a necessary cause of terrorist behaviour; however, under certain conditions and in the right combination they may contribute to an individual’s support of or enrolment in a terrorist organization” (Kruglanski & Fishman, 2006). It is important to note that Kruglanski and Fishman’s (2006) theory was not developed through any of their own empirical studies. Rather, they have used previous research conducted by other researchers to support their theory. Therefore, the contributing factors outlined below are the early beginnings of a framework that will require support from empirical research.

Kruglanski and Fishman (2006) identify six potential contributing factors. These include: Relative Deprivation, mortality salience, right-wing authoritarianism, collectivism, sensation-seeking, and cognitive styles. Although Kruglanski and Fishman (2006) outline these potential contributing factors, they do not discuss the specific circumstances that may lead individuals to support terrorism. This information is important if this framework is to further understanding of the process of radicalization.

Although there is no empirical support for this theory and not all components are clearly defined, this work directs the spotlight away from the profiling approach to terrorism and onto how

personality traits, beliefs, thoughts, and specific circumstances can lead people to radicalize. The following theories also look at factors other than psychological variables.

### **3.6.2 Incipient Radicalization**

Canadian researcher Elaine Pressman (2008) has proposed a three-tier model of radicalization. These tiers include macro- and micro-level sources of radicalization<sup>2</sup> and an “incipient latent radicalization” process that begins very early in life<sup>3</sup>. The incipient latent radicalization tier itself has four stages. Pressman argues that these three tiers are important for understanding the path to radicalization.

Specifically, the macro-level sources include ideologies of countries, groups, and religions and these ideologies, in turn, lead to a desire to bring about change in the political, religious or social arena. Micro-level sources of radicalization involve factors at the individual level. These include the individual’s response to the macro-level sources, as in the individual’s psychology (e.g., subconscious thoughts, emotional responses) as well as other psychological factors, opportunity factors, environmental factors, incipient sources and inspirational forces (wherever these may be found). Pressman argues that the micro-level sources are “push” forces that lead people down the pathway of radicalization. However, if the macro–sources’ norms are non-radical, these values can counter radical ideas learned during the early childhood years through parents and caregivers.

The third tier of Pressman’s (2008) theory is a process called incipient latent radicalization. Pressman argues that exposure to extreme ideologies begins shortly after birth and that these thoughts and values lie dormant in subconscious thoughts until later in the child’s development. Pressman proposes four stages of incipient radicalization that occur from birth through to 18 years of age. The four stages are described below.

#### **3.6.2.1 Stage 1: Language and Thought Onset (0 – 3 years)**

During the first three years of life, children acquire language and through language they are able to organize their thoughts. It is through language that children learn and acquire the values, beliefs, and attitudes of parents and caregivers. As children learn language, they increasingly become aware of activities in their environments and learn that people can be labeled as good or bad. It is during this stage that children start to formulate strong concepts of what is “right” and what is “wrong” to them.

Children are also exposed to the emotions of those around them, from happiness to sadness and anger. Pressman (2008) argues that language is the primary avenue for parents to express their opinions, values, attitudes, and beliefs. If parents’ beliefs are hostile, angry, and hateful, these negative emotions will be transmitted to children. Finally, during Stage 1, children’s exposure to macro-level norms is very limited and thus most of what children learn comes from parents and caregivers.

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<sup>2</sup> Note that ‘macro’ and ‘micro’ refer to different concepts in this section, versus section 4.

<sup>3</sup> ‘Incipient’ being defined as ‘just starting to be or happen; beginning; only partly in existence; imperfectly formed’.

Similar theories of how language organizes thoughts and shapes perception can be found in studies of colour perception (Adelson, 2005). This field of research can have important implications for the study of radicalization by providing an analogous situation from which radicalization researchers can build expectations and hypotheses. It may not be surprising if the language used by parents, and the emotions associated with that language, have a significant effect on the worldview of the children and their likelihood of radicalizing.

### **3.6.2.2 Stage 2: Cognitive Development and School Experience (4 – 8 years)**

During this stage of development, children generally attend school and are exposed to state and educational (macro-level) values and beliefs. If these values and beliefs are similar to their parents', children continue to develop within the context of these values. However, if the macro-level beliefs are different from previously taught values, cognitive discomfort occurs. During this stage, children do not act upon this discomfort but are aware that other people's views may not match with their own. In Stages 3 and 4 of development, this discomfort grows and may become problematic for the developing child.

Pressman (2008) argues that one possible intervention strategy to counteract parents' radical norms is to promote non-radical societal values and norms. In this view, non-radical societal views should be communicated often and as early as possible to ensure the message (of societal values and norms) is reinforced. As Berrebi (2003) reports, pupils in the Palestinian region encounter societal values and norms that are radical, which perhaps explains the preponderance of radical behaviour in this area. In contrast, Canada espouses a non-radical set of societal norms that may act to ameliorate the micro-level radical norms learned by children.

### **3.6.2.3 Stage 3: Cognitive Dissonance and Non Like-Minded Peers (ages 9 – 13 years)**

If children continue to be exposed to radical beliefs in the home and if non-radical societal norms have not yet been established, cognitive dissonance grows and causes confusion and discomfort for children. This discomfort is caused by simultaneously holding two contradictory ideas. Pressman (2008) suggests that children in this stage will try to resolve the dissonance with rigid thoughts and ideas. If this conflict is not resolved, this could lead to behavioural problems that may interfere with academic success leading to a possible rejection of the educational system. However, this last point (rejection of the educational system) is at odds with the case study research that has shown that many terrorists are well-educated and successful. Therefore, if children at risk of radicalizing have resolved the dissonance between micro- and macro-level influence, those that end up as radicals must have turned to a "radical" resolution, rather than a "non-radical" one.

### **3.6.2.4 Stage 4: Cognitive Consonance and Group Think (14 – 18 years)**

During this stage of development, adolescents tend to struggle with their sense of identity and how they fit into the society. Pressman (2008) notes that society's messages are often in opposition to adolescents' self-concepts and, in turn, adolescents who experience this dissonance are highly vulnerable to recruitment by terrorism groups. According to Pressman (2008), adolescents who are in stage 4 of incipient radicalization will resolve the conflict of

dissonance through approach-avoidance behaviours, that is, they will repeatedly engage and disengage with the source of the conflict in an attempt to coalesce on an outcome that minimizes the psychological distress of the dissonance. They will participate in activities that reduce the tension between their beliefs and society's norms. A prime example of incipient radicalization is found in the members of the Toronto 18 terrorist group who planned to attack the CN Tower and Canadian Security Intelligence Services offices, and to behead the Prime Minister. In order to relieve the cognitive tension created by a lack of internal consistency arising from incompatibility between their personal beliefs (i.e., fundamentalist Islam) and those of society (i.e., contemporary Canada), they sought out "like-minded" friends and eventually formed the Toronto 18. Pressman (2008) suggests that the members may have soothed their cognitive dissonance by coming together as a group and participating in military- and paintball-type outings.

Finally, Pressman (2008) argues that adolescents who hold very strong beliefs experience greater cognitive dissonance than those with weaker beliefs. The author also suggests that "disloyalty to religion and values create high tension in individuals" and that adolescents may find it very difficult to reconcile this particular conflict.

Although there is no empirical support for Pressman's (2008) three-tier model of radicalization, she argues that the road to radicalization is complicated and dynamic and that her model allows researchers to look at how micro- and macro-level factors and incipient attitudes interact to contribute to radicalization. Pressman further emphasizes that in order to prevent or reverse the process of radicalization, there needs to be a clear understanding of all the factors involved in radicalization.

John Horgan (2008) has conducted extensive research on the issues of involvement and engagement in terrorism and, like Pressman (2008), argues that the road to terrorism is a complex psychosocial process. Horgan's model of radicalization proposes three distinct phases of radicalization which are discussed in the following section.

### **3.6.3 From Profiles to *Pathways* and Roots to *Routes***

Horgan (2005; 2006; 2008) and Taylor and Horgan (2006) have argued against the profiling approach to terrorism. Instead, they favour a model that views the pathway to terrorism as a series of routes that are complex, multi-faceted and multi-disciplinary. Horgan proposes that there are two main reasons for the continued support for a simple explanation (i.e., profiling) of the evolution of a terrorist. First, some may believe that the considerable property, physical and psychological damage caused by terrorism could only be carried out by someone who is mentally unstable or psychotic. Second, only a small percentage of people who are exposed to the same social conditions, religion, and backgrounds turn to terrorism (Horgan, 2008). Given these two reasons, it would seem reasonable to assume that the individual is psychologically flawed. However, earlier sections (e.g., section 3.2) of this paper have highlighted research that has shown terrorists are not psychotic nor mentally unstable nor do they possess personality disorders. This conclusion has led Taylor and Horgan (2006) to examine radicalization and terrorism as a process rather than a state of mind; specifically, how and why people radicalize. Through this examination, Taylor and Horgan have proposed that the route to radicalization

includes at least three distinct phases: becoming involved, being involved, and disengaging (which may or may not lead to de-radicalization).

### **3.6.3.1 Becoming Involved in Radicalization**

Horgan (2008) and Taylor and Horgan (2006) propose several risk factors that may predispose an individual to terrorist behaviour. These risk factors may include, but are not limited to:

1. *The presence of some emotional vulnerability, in terms of feelings of anger, alienation (often synonymous with feelings of being culturally uprooted or displaced and a longing for a sense of community), and disenfranchisement.*
2. *Dissatisfaction with their current activity, whether it be political or social protest, and the perception that conventional political activity just does not work or produce results. A related issue here is that violent radicals view terrorism as absolutely necessary.*
3. *Identification with victims—either real, in terms of personal victimization (e.g., by the military or police) or less tangible.*
4. *Crucially, the person has to believe that engaging in violence against the state or its symbols is not inherently immoral. This belief, while it may be fine-tuned by a religious figure, is usually held by the time the person has decided to become involved to the point of engaging in terrorism.*
5. *Also important is a sense of reward that the recruit has about what “being in this movement” represents. All suicide bombers, across the world, have one thing in common. They come to believe that they will achieve more in death than they ever could in life, a very powerful motivating factor not only in initial recruitment but also in terms of sustaining that person’s commitment to the movement once a member.*
6. *Finally, kinship or other social ties to those experiencing similar issues, or already involved, are crucial (Horgan, 2008).*

While there are likely more risk factors, these six provide a very strong foundation for “openness to socialization” (Horgan, 2008) and may help predict which person chooses to radicalize among a group of people exposed to the same conditions. Horgan (2008) emphasizes that these risk factors are only critical during the first phase of becoming radicalized. Once a person chooses to radicalize, there are myriad other factors at play that continue to draw someone into a terrorist group. These are described below.

### **3.6.3.2 Being Involved in Radicalization**

Horgan (2008) argues that once a person is open to the idea of belonging to a terrorist organization, factors such as collective group power, excitement, status, comradeship, influence of the group’s leader, group ideology, the individual’s external social/political environment and

understanding how one's behaviours has meaning to the group will continue to draw people into a terrorist organization. Further, once individuals commit to the terrorist group and the group's ideologies, they begin to move away from mainstream society and towards the terrorist group. They continue to be disillusioned with conventional avenues for change within society (e.g., voting, writing to political representatives) while, at the same time, becoming increasingly attracted to the alternative solutions offered by the terrorist organization. As people become more committed and further entrenched in the terrorist group, they experience continual change and varying degrees of commitment, activity, and involvement. During early involvement, members rarely participate in the more violent group activities (e.g., bombings, shootings). Rather, they are tasked with support activities (e.g., moving weapons); they may be entrusted with carrying out more dangerous activities once they prove their worth and loyalty to the group. The following excerpt was taken from *The Reporter's Guide to Ireland* and cited in Horgan (2005). It highlights role allocation within the Irish Republican Army (IRA) and shows how individual qualities are used to determine the roles new recruits fill.

*INTERNAL SECURITY AND ORGANISATION:*

*1. Recruitment: This is a vital stage for the movement and the new recruit, the importance of which is not sufficiently understood and appreciated by the Recruit's Officers and others responsible for the intake of new members into all branches of the movement. The age, address, and any other easily available statistics about the recruit should be made known to the Command I.O. [Intelligence Officer] in each and every case; he should then assess the relative value of the applicant to the movement – present and future – by virtue of occupation, family circumstances, hobby, relations with other groups and associations, or any particular ability or skill which would place him (or her) in a position to be of greater potential value as a secret member than otherwise. The categories of employment we have in mind hardly need elaboration.*

As members of terrorist groups become more entrenched and committed to the organization, they develop sustained, increased and focused involvement. They also engage in the four stages in “the cycle of a terrorist event” (Horgan, 2005). These include:

1. Decision and search activity – targeting and “pre-terrorism”;
2. Preparation or “pre-terrorist” activity;
3. Event execution;
4. Post-event activity and strategic analysis.

Horgan (2005) contextualizes these stages as follows:

During stage one, a target is identified. Targets are often chosen deliberately and are not random. The targets may be individuals or property and have direct political or symbolic roles, may involve noncombatants (e.g., victims of the 9/11 attacks), its own members, or members of a rival organization.

After a target is chosen, preparation or pre-terrorist activities commence. These activities include surveillance of the target, and identifying and training appropriate personnel. Further, any explosive devices that will be used in the attack needs to be designed, built and tested.

Once training is complete and all devices are ready, execution of the event occurs. The device is assembled and planted by assigned personnel. Surveillance around the operation is maintained, the attack is carried out, and personnel evacuate the area through pre-determined escape routes, and secure any weapons, if necessary.

After the attack is carried out, members destroy any relevant evidence. Vehicles and clothes are burned and any traces of forensic trace evidence are destroyed to ensure that personnel involved in the attack cannot be identified.

The previous two sections provide some insight on the route to becoming a terrorist and being involved in terrorism. The factors influencing people to choose radicalization and violent extremism are complex and difficult to pinpoint because the individual factors are different for each member of a terrorist organization. Although members of a terrorist group are usually very committed to the group, many people choose to disengage from terrorism. The following section describes how and why people may choose to disengage.

### **3.6.3.3 Disengaging from Terrorism**

The paucity of literature indicates that very little is known about how and why people leave terrorist organizations. Few researchers have investigated this activity because the emphasis has been on trying to understand what motivates people to become terrorists (Horgan, 2005). Horgan has proposed some reasons why people leave terrorist organizations. These include, but are not limited to:

1. Psychological disengagement from the group. Recall that the rewards (excitement, status, collective group power) of being involved in the group are extremely important for recruits. Horgan (2005; 2008) suggests that over time these rewards are often not sustained, which leads people to disengage from the group.
2. Physical disengagement. There are a number of factors that lead to physical disengagement from the group. These include imprisonment, change of roles due to punishment, and expulsion from the group (for insubordination, disloyalty to group members, stealing from the group, etc.). Horgan (2005) highlights one critical difference between psychological and physical disengagement. A member may physically disengage but still be a member of the group. For example, having a child may facilitate new roles within the organization. This would include moving from direct participation in terrorist activities (e.g., carrying out bombings) to indirect support of terrorist activities (e.g., logistical support such as concealment, and acquisition of food and money).
3. Organizational issues. Sometimes tactics, ideologies or focuses of the group change. In turn, members may become disillusioned or unwilling to support the new organizational directions, which can lead to disengagement.

Horgan (2005; 2008) and Taylor and Horgan (2006) focus their attention away from the profiling approach to understanding terrorism and instead developed a process model approach to terrorism. The route to radicalization is complicated and multi-faceted and, as such, research in this area needs to reflect the complexity of this topic. Developing models and theories that incorporate the psychological, social, and environmental factors will lead to a more complete and comprehensive understanding of how and why people choose to radicalize and engage in terrorist activities.

Recalling that Horgan (2008) and Taylor and Horgan (2006) describe six potential predisposing risk factors involved in becoming a terrorist. They highlight that the risk factors are not limited to the risks they identify. The following section discusses four more potential risk factors.

### **3.6.4 Mortality Salience**

Mortality salience describes awareness of one's eventual death. Research has shown that reminding participants of their own death leads to an increase in worldview defense. Worldview defense strengthens people's connections with their culture's norms and creates negative evaluations of other societies (e.g., Greenberg, Salomon, & Pyszczynski, 1997; Ochsman & Mathey, 1994).

Pyszczynski, Abdollahi, Solomon, Cohen, and Weise (2006) investigated the effect of mortality salience on Iranian students' support for martyrdom against Americans. Students were randomly assigned to answer questions about either their own death or an aversive topic unrelated to death (i.e., dental pain) and then evaluated materials from fellow students who either supported or opposed martyrdom attacks against the United States. Participants who answered death-related questions and who evaluated pro-martyrdom materials showed a preference for people who support martyrdom and indicated that they were more likely to consider such activities themselves.

The Pyszczynski et al. (2006) study reveals how mortality salience increases support for violent conflict against perceived enemies. These results could be important for furthering understanding about risk factors associated with radicalization. It may be that the uncertainty resulting from death-related thoughts leads to support for eradicating perceived enemies. For terrorists, eliminating enemies often involves violence. However, it is also the case that mortality salience works for peaceable people too. Pyszczynski et al. provide the example of a devout Quaker, for whom mortality salience would evoke even stronger commitment to pacifism and nonviolence. More research is required to better understand if mortality salience is a risk factor for radicalization.

### **3.6.5 Strain and Negative Affect**

Arguably, strain and negative affect are the psychological processes most germane to the study of the effect of economic factors on psychological processes involved in radicalization. In particular, one might expect an economic downturn to place strain on an individual, and lead to negative affect (i.e., emotions) such as anger, frustration, depression, and fear. The goal of a study by Kayaoglu (2008) was two-fold. First, Kayaoglu examined if strain and negative affect

led to violent behaviour. Second, Kayaoglu sought to better understand the relationship between the earlier experienced strains of terrorists and their violent behaviours.

Kayaoglu (2008) used Agnew's (1992) micro-level general strain theory to determine whether the psychological strains experienced by terrorists have an effect on willingness to perform violent acts. Specifically, Agnew (2006) identifies three types of psychological strains that individuals face. These include: (a) failure to achieve positively valued goals, (b) presentation of negative stimuli, and (c) removal of positive stimuli. In turn, these three types of strains lead to negative emotions and subsequently to criminal (or terrorist) behaviour.

Kayaoglu (2008) used data from the archives of the Turkish National Police. The data were internal reports of the terrorist organization and included demographics and life histories of 144 known Turkish Hezbollah terrorists operating within Turkey between 1992 and 1996. Questionnaires were used by terrorist groups to learn more about members and how best utilize them within the organization.

The results indicate that prior to joining the terrorist organization, individuals who experienced higher levels of strain were more likely to perform violent acts than individuals who experienced lower levels of strain (Kayaoglu, 2008). Further, anger, frustration, depression, and fear increased the likelihood that people chose to join terrorist groups. In some cases, terrorists indicated that the negative affect motivated them to make changes in their lives and one change included joining a terrorist group.

Kayaoglu (2008) argues that general strain theory can help researchers understand the sources of psychological strain that may lead people to choose to radicalize. Two other psychological theories may provide more insight into why people choose to radicalize. They include religious and defensive zeal and are discussed in detail below.

### **3.6.6 Religious Zeal**

McGregor, Haji, Nash and Teper's (2008) research examines the role of personal uncertainty in motivating religious zeal. The researchers propose that people exaggerate their conviction and confidence in an unrelated domain to relieve aversive feelings of uncertainty and anxiety. Supporting their hypothesis, undergraduate participants who read a challenging statistical passage (the paragraph was taken out of a graduate level statistics book and certain key information was removed) were more religiously zealous and more likely to support a war that defended their religious beliefs than participants who read an easy statistical passage (taken out of an introductory undergraduate text book). Reading the challenging statistical passage was thought to induce academic uncertainty. Previous research has shown that reading the challenging statistical passage heightens convictions for topics such as abortion or capital punishment (McGregor & Jordan, 2007; McGregor, Nail, Marigold, & Kang, 2005).

These findings indicate that uncertainty leads to zeal for a topic unrelated to the source of uncertainty. McGregor et al. (2005) suggest that this zeal is a type of compensation that provides relief from unresolved conflict. On this view, personal uncertainties may lead to religious or ideological zeal towards terrorist organizations.

However, martyrs for a religious cause often believe that their actions will be richly rewarded in the afterlife. This confuses the research on religious zeal since, in the case of reward in the afterlife, the mechanism at play may simply be a straightforward case of anticipated reward. Further research needs to be conducted to understand the role that religious zeal plays in radicalization.

### **3.6.7 Defensive Zeal**

McGregor and Marigold's (2003) research sought to explore whether zeal is a compensatory response to personal uncertainty. In a series of studies, participants filled out self-esteem and personality assessment questionnaires and were asked to think about a difficult personal dilemma.

Results show that thinking about a difficult personal dilemma increased participants' compensatory convictions. Additionally, participants with high self-esteem expressed more conviction and self-defensive behaviours than low self-esteem participants. McGregor and Marigold (2003) suggest some possible links with terrorism theory. In the section on mortality salience (section 3.6.4), thinking about one's death increased negative opinions for people perceived to hold contradictory views and support for those viewed as holding similar convictions. McGregor and Marigold define these responses as "worldview defenses" which they argue possess some of the essential characteristics of compensatory convictions (e.g., narrow-mindedness). In other words, while "compensatory conviction decreases [the] salience of troubling uncertainties, worldview defenses after mortality salience have been shown to decrease salience of death thoughts" (see also Greenberg, Arndt, Schimel, Pyszczynski, & Solomon, 2001). Further, people's zealousness can be so extreme that it prevents objective assessment of differing or opposing views. In turn, this compensatory conviction may be the basis of the terrorist activities (McGregor & Marigold, 2003).

### **3.6.8 The Staircase to Terrorism**

Similar to Pressman (2008) in proposing a staged approach to terrorism is Moghaddam (2005). Moghaddam uses the metaphor of a staircase that narrows as it rises. This narrowing is intended to convey the sense that the higher the potential terrorist ascends the staircase, the fewer choices he has. Moghaddam's staircase model consists of six different levels, with behaviour at each level characterized by unique psychological processes.

#### **3.6.8.1 Ground Floor: Psychological Interpretation of Material Conditions**

Moghaddam's model (2005) posits that the majority of people occupy the ground floor, where what matters most are perceptions of fairness and just treatment. Issues that may cause individuals to ascend from this level to higher phases of radicalization include perceived injustice, frustration and shame that they may feel relative to the rest of the world. This sense of Relative Deprivation, and in particular a fraternal deprivation, may be the mechanism that compels those with the means (i.e., financial and educational means) to climb to the first floor.

### **3.6.8.2 First Floor: Perceived Options to Fight Unfair Treatment**

Moghaddam (2005) goes on to say individuals who reach the first floor are looking beyond mere survival (indeed, if we use Maslow's Hierarchy of Needs, these individuals are moving beyond the lowest level of satisfying the basic physiological needs in which many of their peers are mired) and are searching for solutions to what they perceive to be unjust treatment. Two psychological factors are important on the first floor: the perception of their own possibility of person mobility to improve their own situation and the perception of procedural justice. In particular, the opportunities for individuals to participate in decision-making are a key factor in perceived justice and support for the authorities. People must also feel free to be who they wish to be and live where they wish to live, without external impediment. If any of these factors is lacking, there is a danger of that individual moving to the second floor.

### **3.6.8.3 Second Floor: Displacement of Aggression**

In their search for solutions, the radicalizing individual may look for explanations that avoid placing responsibility with their own group (Moghaddam, 2005). In modern times, this displacement of blame (and subsequently aggression) has often fallen to the United States. The displacement of aggression has been channeled through direct and indirect support for institutions and organizations that nurture authoritarian attitudes and extremist behaviour. This includes educational systems that encourage rigid, us-versus-them thinking, and fanatical movements. By adopting this manner of thinking, the individual will begin to seek opportunities to carry out acts of aggression and strike at perceived enemies. Such behaviour is the entry to the third floor.

### **3.6.8.4 Third Floor: Moral Engagement**

From the perspective of mainstream society, terrorists are "morally disengaged": they reject the attitudes and ideas of mainstream society and have begun to reject the morality of mainstream society (Moghaddam, 2005). However, from the perspective of the terrorist morality, the individual is "morally engaged" with the goals and methods of the terrorist organization. At this point, the radicalizing individual is ripe for recruitment by radical or terrorist organizations, and the individual is likely actively seeking out terrorist organizations. The recruit is persuaded to become committed to the organization through a number of tactics, including isolation, affiliation, secrecy, and fear. The recruit develops a parallel life in secret and isolation from his or her family and friends, beginning a spiral that further isolates the recruit. At a macro level, the terrorist organization seems like the only option for reforming society, and at the micro level, it is the only "home" for the recruit.

### **3.6.8.5 Fourth Floor: Solidification of Categorical thinking and the Perceived Legitimacy of the Terrorist Organization**

Having now joined a terrorist organization, there is little opportunity for recruits to leave and pursue a non-radical life (Moghaddam, 2005). The terrorist group is stratified into "foot soldiers" and longer-term members. The individual's network of friends will now consist mainly of other group members, with moderation of views from outside people. The "us-versus-them" mentality is strengthened and authoritarian approaches are followed. The pressure from within the

organization is strong, but then so are the lack of opportunities to disengage afforded by the government. The individual finds the options to leave the group very narrow. The only potentially successful strategy is to continue with the terrorist group.

### **3.6.8.6 Fifth Floor: The Terrorist Act and Sidestepping Inhibitory Mechanisms**

Still to be overcome in the new terrorist is a reluctance to harm civilians. This is accomplished through the continued social categorization of people into the out-group, and the creation of psychological distance (Moghaddam, 2005; Grossman, 1995). Inhibitory mechanisms have evolved throughout human existence to limit the aggression of humans against one another and can be triggered through eye contact, pleading, crying, and other means. By reinforcing the notion that the civilian is distinct, in fact very different, from the terrorist, and that they are wrong, this inhibitory mechanism is partially sidestepped. Further, when the terrorist act is imminent, civilians are rarely aware and have no opportunity to behave in ways that might trigger the inhibitory mechanisms.

## 4 THE IMPACT OF ECONOMIC DISTRESS ON RADICALIZATION

*“The Arab began to understand that (it) is not poverty creating terror, but terror creating poverty. They are the victims of their own errors” (Shimon Peres).*

### 4.1 Introduction

Anecdotally, since 9/11 the view that poverty creates terrorism has been dominant. Before we can examine how economic factors affect radicalization of individuals, we must look at the data more broadly.

To make sense of the data examining the relation between economic factors and radicalization, this section is organized in several sub-sections: (a) considering the relationship between economic stress and psychological well-being, (b) exploring related research areas that may contribute to this debate, and (c) empirical data on radicalization, terrorism and economic factors.

### 4.2 Economic Stress and Psychological Well-Being

The relationship between economic stress and psychological well-being leads to an intuitive and informal conclusion: economic stress is bad, leading to psychological issues concerning depression, anxiety and similar “nervous” disorders. However, these intuitive conclusions do not explain the frequent cases where economic hardship acts as the spur for someone to work hard or change direction and, ultimately, succeed.

Originating from ecological and epidemiological studies in community health, mental health, psychiatry and psychology, studies of the link between economic factors and mental health have suffered from methodological problems (Brenner, 1973). The first significant work in this area was *Mental Health and the Economy* by Brenner (1973). Since then, work has been carried out at the aggregate and individual level, employing both cross-sectional and longitudinal study designs. Many studies do not account for reverse causation (i.e., a mental health issue leads to the economic circumstances), and other studies draw conclusions at the individual level, based on community economic data. At the individual level, critics point to inadequate measurement of the economic environment as a methodological shortcoming. At the aggregate level it is argued that any effects on the mental health of a population overall are marginal at best, and never become statistically significant.

MacFadyen and MacFadyen (1992) developed the 56-item Economic, Demographic and Social Characteristics Questionnaire (EDSCQ) which quantifies environmental risk across four dimensions: individual, social, economic and demographic/geographic. This questionnaire is based on a set of variables that are consistently related to poor mental health outcomes. The EDSCQ is based on a model of economic psychology that plots the environmental antecedents and the outcomes of well-being. The antecedents are both aggregate and individual level and are rated on a scale that goes from low risk/high benefit to high risk/low benefit. Twenty of the 56 questions concern economic circumstances.

MacFadyen, MacFadyen and Prince (1996) used the EDSCQ in a study involving 796 adults in urban Western Canada. The 796 adults consisted of two groups: those responding to a telephone survey (and therefore with no assumed pre-existing mental health problems) and those in treatment for a mental health problem. This latter group was further divided into inpatient and outpatients (reflecting the severity of their mental health issues). Those in treatment were used to obtain behavioural outcomes. To measure the behavioural outcomes, MacFadyen et al. (1996) used two categories: objective and subjective. Objective measures are based on clinical diagnoses and could be either inpatient or outpatient treatment. Subjective measures were based on a self-report measure of psychiatric and psychological symptomatology developed by Derogatis (1977)<sup>4</sup>. Of the outcome measures, MacFadyen et al. (1996) used the Global Severity Index (GSI; Derogatis, 1977) to differentiate between test groups.

The study identifies the four strongest economic functions (i.e., aggregates of more than one EDSCQ item) to predict the GSI from the EDSCQ were: (a) dependence upon social insurance income (positive correlation), (b) occupational level (i.e., blue collar workers; negative correlation), (c) family income (negative correlation), and (d) average duration of employment (negative correlation). All EDSCQ items correlated with the GSI but only one (economic satisfaction) exceeded the absolute value of the correlation between aggregate economic risk score and GSI (although the relationship between economic satisfaction and GSI was negative). Because only a single EDSCQ item exceeds the value of the correlation between aggregate economic risk and GSI, there is some evidence to support the belief that economic stressors come from a variety of sources and operate in a cumulative fashion.

The MacFadyen et al. (1996) study, unfortunately, focused on economic stress as a predictor of non-specific psychological distress, leaving it less relevant to the current review. However, it does present a methodology for carrying out similar studies in different populations in Canada, focusing more specifically on psychological outcomes.

Other studies seem to have focused on coping strategies for economic stress. Waters and Moore (2001), for instance, show that depressive affect was predicted by economic deprivation for material necessities (as opposed to meaningful leisure activities). Further, the relationship between economic deprivation and psychological health was conditional upon the use of solution-oriented coping, and the relationship between employment status and depressive affect was moderated by the use of affective-based coping. Ball and Orford (2002) elaborate on the concept of meaningful leisure activity to include barriers to it (e.g., work may reduce the opportunity to pursue meaningful leisure activity), personal requirements for it (e.g., challenging, effort and commitment, perceived value by others), the consequences (e.g., opportunities for self-determination and self development, achievement, competence and confidence), and consolidating factors (e.g., social comparison, self-appraisal, religious and political beliefs, and social support). While coping does not necessarily further the understanding of radicalization and the economic climate, such research may help devise policies that counter radicalization.

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<sup>4</sup> The Symptom Checklist-90-R (Derogatis, 1977) and the shorter Brief Symptom Inventory (Derogatis, 1975) include 90 and 52 items respectively, rated from 0 to 4. Both instruments measure type and severity of symptoms along 9 dimensions: somatisation, obsessive-compulsiveness, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.

One additional study should be mentioned here. Starrin, Rantakeisu and Hagquist (1997) investigated the development of shame during economic hardship. Starrin et al. (1997) added “shaming” as a variable to the relationship between unemployment and feeling powerless, depressed, and uneasy, as well as psychogenic health problems. Shame (i.e., the feeling that being unemployed means inferiority and loss of self-esteem) aggravates the economic problems caused by unemployment. This may exacerbate the processes that are presumed to mediate in radicalization.

In keeping with the other findings of this review, the research indicates that the impact of economic stress on psychological health is complicated by other mediating factors in a person’s life at that time (Starrin et al., 1997). While many authors speak of depression, anxiety, identity and other concepts, evidence to state categorically that economic hardship affects these concepts has been hard to find. It may be truer to say that an individual experiencing economic hardship may engage in psychological processes including social comparison, self-appraisal, and self-determination and that these processes exacerbate radicalization if they are taken to extremes. Nevertheless, there is no neat model of the psychological impact of economic stress against which we can map radicalization. Thus, it becomes necessary to look for clues to radicalization from different areas of economic psychology research.

### **4.3 Related areas of study**

#### **4.3.1 Crime**

Research on economics of terrorism is a relatively new field, as evidenced by the dearth of published papers on the topic. For that reason, and because of definitional disagreement on what exactly constitutes terrorism, as described earlier in this paper (see Section 1), it may be interesting to examine relevant research and theories in other related disciplines. For example, several authors have pointed out that terrorism and crime are, in some ways, similar (e.g., Krueger & Malečková, 2003). For that reason, several of the reviewed studies discuss findings on crime-economics and question whether findings from criminology can be applied to the study of radicalization.

Studies on the economy of crime generally start with Becker (1968) who argued that individuals choose to commit crimes if: (a) they can receive a higher income from crime compared to the legal job market, and (b) the perceived risk of penalty for committing crime is low. Applying this model to property crime data has indeed shown an association between this type of crime and individuals with low wages and low levels of education (Krueger & Malečková, 2003). This early rational actor model shows that under the right circumstances “crime pays” for particular groups in societies. However, there are a few problems with this rational choice model, the first being theoretical, the second empirical. The theoretical concern is that relatively simple rational choice models, whether they are about crime or about terrorism, do not take into account individual values about one’s behaviour that play a role on the psychological level (Krueger & Malečková, 2003). Obviously, not all individuals with low income, low education and low likelihood for getting punished for crime, become thieves. An empirical concern with the rational actor model is that the association between economy, education and crime disappears once data about violent crimes (i.e., rape, murder) are included in the analysis (Atran, 2003). If terrorism can indeed be compared to crime, it has more similarities with violent crimes over property crimes.

And if violent crimes are not related to economic changes, it seems likely that terrorism is not related to economic factors either (Krueger & Malečková, 2003).

A second field of study that may be comparable to radicalization and terrorism is the study of hate crimes (Berrebi, 2003). In the legal sense of the word, hate crimes are crimes that are motivated by racial, religious, gender, sexual orientation or other prejudice (Berrebi, 2003). Hate crimes are unlikely to be motivated by immediate economic incentives and are instead driven by the beliefs of individuals.

The question relevant for this review is then to explore whether hate crimes go up in times of economic uncertainty. Research by Jefferson and Pryor (1999; in Krueger & Malečková, 2003) examined American hate groups during the year 1997, with data from the Southern Poverty Law Center. They compared the existence of hate groups with economic (e.g., unemployment rate), social-demographic (e.g., divorce rate, percentage of black citizens in the county), and socio-economic variables (e.g., income gap between black and white groups) at the county level. The researchers found no association between economic or socio-economic variables and the existence of hate groups. However, a positive association was found between hate groups and percentage of the population who had achieved at least a high school education.

A similar longitudinal study investigated whether economic uncertainty or economic change is related to hate crimes (Green, Glaser, & Rich; in Berrebi, 2003). The authors compared anti-black lynchings and real GNP growth from 1882 to 1938. They found that lynchings were positively correlated with GNP growth. However, lynchings were not correlated with economic decline (Green, Glaser & Rich; in Berrebi 2003). Studies conducted outside the US confirm the observations that the link between economic variables and hate crimes is tenuous. For example, one study focusing on Germany in the 1990s found no relation between violence and education or wage (Krueger & Pischke, 1997). Instead, hate crimes were related to geographic location, with the former Eastern Germany experiencing higher levels of xenophobia and hate crimes compared to the Western part of the country, regardless of income levels (Krueger & Pischke, 1997).

A third possible link between crime and radicalization that needs to be briefly discussed is the perceived similarity between criminal gangs and radical groups. Gangs attract a similar demographic group to radical groups: young, mostly teenage men (although members can be approaching middle-age; Hagedoorn, 2006). Further, gangs are often formed for economic reasons as much as for social reasons (Hagedoorn, 2006). For example, many US gangs are involved in drug-trade, often to replace lost industrial jobs (Hagedorn, 1999). In addition, gangs often have economic functions for their members and operate both in the formal and informal economy. Of importance to this review, gangs are known to be formed or to grow in times of economic crisis, especially in situations with a weak rule of law (e.g., Castells, 1998; Hagedoorn, 2006).

While many transnational radical and terrorist groups use crime for their purposes, thus blurring the line between terrorist groups and gangs, one should be careful not to assume that gangs and radical groups are therefore similar in every aspect. There are some important differences:

1. Gangs often have no higher political purpose, as opposed to radical groups.

## 2. Not every radical group relies on criminal methods to sustain itself.

Based on available data, gangs are often attractive to unemployed young men with lower levels of education and poor socio-economic backgrounds, in comparison with radical groups that often attract individuals with higher education and levels of income (Hagedoorn, 2006).

Based on these distinctions, several authors warn against over-extrapolating on the similarities between crime and terrorism, and argue that terrorism should be studied as a separate phenomenon (Atran 2003; Berrebi 2003). This is a valid point, but should not diminish the need for more research on the overlap of crime, in particular when gang-related crime overlaps with terrorism, in addition to studying terror groups as a distinct phenomenon. In particular, one area that is under-explored is the economic role of radical groups. We know for example that the terrorist organization Hamas provides social, educational, political and economic functions for its members, similar to gangs (Berrebi, 2003). Examining how gangs create and sustain these functions may provide useful insights for radicalization research. A second area that is not sufficiently explored in the literature is the role of the informal economy. Research about gangs' abilities to operate in informal economies may help us understand if and how radical groups function in similar ways. Third, there is little research about when a radical group resorts to crime to sustain itself, and when it does not.

### 4.3.2 Extremism

A second important field of study that the literature review has investigated is the study of left- and right-wing radicalization and its relation to economic factors. Before extremism and terrorism came to be equated with groups such as al Qaeda and other Islamist radical groups, the field of radicalization studies focused on right- and left-wing extremism. This is not surprising, given the role that left- and right-wing radical thought played in the larger part of the 20th century. For that reason, the review will briefly discuss some important findings. As a note of warning, some of the language about class may seem dated to the casual reader. However, there are important lessons to be learned from these kinds of analyses.

Lipset, writing in 1959, has argued that different social classes (lower, middle and upper) are attracted to different kinds of political ideologies, left- centre- and right-, respectively. Political ideologies, by extension, feed extremist thought along those class lines. Extremist thought does not exist in a vacuum by itself, but is based on ideologies that have democratic counterparts. Thus, the different spectrums of politics have democratic components, but when taken to the extreme, feed into extremist ideology. Importantly, Lipset saw extremism not as something that occurs only on the left and right, but also in the centre of the political spectrum. The lower working class, according to his historical analysis, is mostly attracted to left-wing extremism (i.e., Communism in its many revolutionary variations). The upper class by contrast is attracted to right-wing extremism, which Lipset calls traditional Conservatism. This is not a revolutionary ideology, but one that seeks to restore traditional values, is opposed to democracy and in favor of monarchy and aristocracy. The middle class, Lipset argues, sustains the centre ideology of extremism. In the era that Lipset wrote, he referred to centrist-extremism as Fascism; however, he recognized tendencies of other extremist populist movements, such as McCarthyism, which are based on broad populist middle-class support.

These observations of political extremism are highly relevant for the purposes of this review. First, if we follow Mandel's definition (2009), as discussed in the introduction to this report (Section 1), it is very important to understand not just radicalization, but also extremist tendencies that precede it. While the global class-struggle is generally considered to be over, this does not mean that social classes have disappeared or that class-based analysis is an obsolete research tool. Second, another important lesson for this review and the question of how economic factors influence radicalization, is that the form that radicalization takes depends partly on social class. We do not know enough about if and how class influences contemporary radical movement, and this is an area that is important to explore in further research. Third, Lipset's observations are useful, as he also points to the commonality of extremist groups, which he argues consist of the type of individuals who first and most enthusiastically join. Heberle, quoted in Lipset, describes these individuals in the following manner:

*"...those who for some reason or other had failed to make a success in their business or occupation, and those who had lost their social status or were in danger of losing it...The masses of the organized party members consisted therefore before 1933 largely of people who were outsiders in their own class, black sheep in their family, thwarted in their ambition..."* (Lipset, 1959)

Last, Lipset's (1959) observations are relevant in that it helps us recognize that ideologies have both democratic (legitimate) and extremist expressions. This is relevant for this study, as it allows us to see radical groups as extremist interpreters of ideas that have a more moderate counterpart. Lipset is not alone in making this argument. Crenshaw (1981) has made a similar argument. However, instead of focusing on political extremist movements, she stresses the role of social movements. These, she argues, develop to redress real or perceived grievances of a social group. Terrorism then is the resort of the extremist factions in broader movements. This in turn has policy implications, as prevention efforts may wish to focus on strengthening the moderate ideas of social groups, as opposed to merely fighting extremist thought. We will return to this point in Section 5 of this report.

To highlight the utility of these insights, many historical case studies of the relation between political extremism and social class could be considered. Due to consideration of time and space, only one has been reviewed here. The article provides an empirical analysis on leftist radicalization in a lower-class 1970s Chilean neighbourhood (Portes, 1971). The author, interestingly, forcefully challenges the belief, already prevalent in the 70s, that radicalization of political beliefs occurs as a result of frustration with socio-economic status. The article's first paragraph is worth quoting:

*"The study of working-class politics has been permeated by the idea, expressed in a thousand different forms that radicalism of the left arises from these sectors as a result of unbearable frustration with their position in the economic structure"* (Portes, 1971).

Of course, when one substitutes in the above quote “working class politics” for more contemporary concerns such as “terrorism” or “Islamist terror groups”, it is easy to see that the belief of the interconnectedness of economic variables and radicalization is not new.<sup>5</sup>

Portes’ (1971) analysis and research methods are too detailed to discuss in depth in this review, though it is worth briefly considering the outcomes and implications for the theory of radicalization. The main conclusion, similar to studies of contemporary radicalization discussed later in this section, is that there is no connection between radicalization and radical attitudes on one hand, and socio-economic status, socio-economic mobility, rural-urban migration, or Relative Deprivation on the other. Portes’ main criticism of theoretical models that propose a relation between economic status and extremism is that extremism is implicitly defined as an elementary emotional reaction to one’s circumstance. Instead, Portes argues that radical attitudes not only have an emotional component, but also a complex cognitive orientation (Portes, 1971).

### 4.3.3 Authoritarianism

One form of extreme movement that has been studied in the context of economic threat is authoritarianism, largely due to the rise of the German Nazi party in the late 1920s and early 1930s as researchers sought strategies to prevent the rise of a similar movement during future periods of economic stress. Sales (1973) investigated the relationship between a generalized “threat” and rates of authoritarianism in two “threat” periods (1930s and 1967-1970) and two “non-threat” periods (1920s and 1959-1964). Sales found that threat was reliably associated with changed behaviour in most areas of the “authoritarian syndrome”<sup>6</sup>.

Rickert (1998) took a different approach, considering whether economic threat acted in concert with pre-existing authoritarian tendencies to allow extreme attitudes to become more overt. In this study, authoritarianism and economic/society insecurity interacted and were related to heightened support for restricted access to abortion and benefits for powerless groups. While this is not directly linked to the thesis of this review, the finding points to the existence of some effect that may be relevant for radicalization in that economic hardship may create conditions in authoritarian countries that lead to an increase in radicalization amongst its citizens.

Canetti-Nisim, Halperin, Sharvit and Hobfoll (2009) considered the contribution of a different stressor to political extremism. They surveyed the attitudes of 469 Jewish Israelis three times at six-month intervals. The researchers were investigating how psychological distress and threat perceptions mediate the relationship between exposure to terrorism and attitudes toward minorities. Their analysis indicated that exposure to terrorism predicted psychological distress, which predicted perceived threat from Palestinian citizens of Israel, which predicted exclusionist attitudes toward Palestinian citizens of Israel. Based on these findings, the authors suggest that terrorism introduces non-democratic attitudes that threaten minority rights, and that psychological distress plays an important role in political decision making.

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<sup>5</sup> Of course, the position that economic factors are the driving force of extremist social and political behaviour is directly traceable to Karl Marx’s philosophy on social class and capitalism

<sup>6</sup> Authoritarian syndrome includes conventionalism, authoritarian submission, authoritarian aggression, anti-intraception, superstition and stereotypy, power and “toughness”, destructiveness and cynicism, projectivity, and exaggerated concerns over sex.

#### 4.4 Terrorism and economic factors

Research that overlaps with the study of radicalization and terrorism, such as crime and extremism, is relevant for the purposes of this review, but only insofar as we can compare the insights with knowledge about contemporary radicalization. The next part of this section will discuss the available data on this topic. First, the review will detail studies on radicalism or terrorism on a local level which includes literature dealing with radicalization at the community or country level. Next, we will shift our attention to global data on terrorism and economy.

With regards to the local level of inquiry, we can distinguish three types of studies: (a) country- and community-level quantitative data; (b) qualitative research; and (c) studies that combine both qualitative and quantitative methodologies

Krueger and Malečková (2003) discuss the correlates of participation in Hezbollah Militant Activity. The authors relied on biographical data about Hezbollah members who died in activities carried out by the Hezbollah military wing. While this dataset poses problems (e.g., not all individuals who died were actively pursuing terrorist activities; it is unclear whether the dataset is representative of all Hezbollah members; and poverty status was often derived from family background as more precise data were often impossible to find), it provides a glimpse into the lives of individuals who choose to join militant resistance movements. The study finds that Hezbollah members are slightly less poor and more educated than the general population. Findings are suggestive, however, not definitive, as there are significant data limitations, and Hezbollah is primarily a resistance organization (against Israeli influence) which uses terrorist methods, not a terrorist group by itself.

It may be argued that Hezbollah might be better classified as a resistance movement, thus making the results interesting for those studying political violence, but not for the study of terrorism per se. Another study that analyzed biographical information of members of recognized terrorist organizations Hamas and Palestinian Islamic Jihad also found that terrorists are less likely to come from impoverished backgrounds and are more educated compared with the general population (Noricks, 2009). Findings, although still preliminary, indicate that any link between wages or unemployment and the number of suicide attacks is either weak or nonexistent (Noricks, 2009).

Instead, the studies by Krueger and Malečková (2003) and Noricks (2009) raise the possibility that educational attainment and income have a positive correlation with terrorist involvement. This is an important question to ask since, recently, two of the most visible international terrorist attempts in the US were carried out by educated individuals. For example, Umar Farouk Abdulmutallab was arrested on Christmas Day 2009 and charged with trying to blow up a transcontinental airliner over Detroit. Mr. Abdulmutallab is the son of a prominent Nigerian banker, and has studied mechanical engineering in London. Faisal Shahzad, a 30 year old Pakistani-American from upper-middle class Pakistani descent who has a Masters degree in

Business Administration, was arrested while attempting to blow up a SUV in Times Square in New York. Both individuals were not poor, disadvantaged or lacking in education.<sup>7</sup>

Berrebi (2003) hypothesizes that there are numerous reasons why individuals with a higher education or income level would be attracted to terrorist activities. First, if people have more education, but their schooling includes a significant portion of what could be called “propaganda”, individuals may be more likely to join radical groups. Another reason could be that individuals with more education have higher reasoning skills and are thus more likely to join radical groups based on their better understanding of moral and religious justifications. Further, individuals who are privileged and thus receive more educational instruction may feel a social responsibility towards the poor, akin to the old European “Noblesse Oblige”. Or it could be that individuals with higher education may not be able to succeed in the regular marketplace of their homeland due to the economic situation, but are able to make a career in radical groups. Last, Berrebi suggests that wealthy individuals may be attracted to joining radical groups as a proxy for developing a respected position in society through work as their purchasing power may buy them power and standing in an organization (Berrebi, 2003).

Berrebi (2003) then tested these hypotheses using data from Palestinian territories. Specifically, Berrebi reported a very weak link between income, education and participation in terrorist activities, whereby higher education level *increases* participation on an individual level, but not a societal level.

These findings are interesting, but as of yet have not been replicated. However, as Berrebi argues, education is not simply the number of years in school. More important is the curriculum being taught. Researchers may wish to consider why some individuals who receive a radical education choose not to engage in terrorism later in life. Conversely, why do some individuals who receive a non-radical education go on to pursue careers in terrorism?

#### 4.4.1 Macro level studies

This section will discuss a range of studies that examine the relation between macro-level economic variables and terrorism.

There are several studies that suggest a link between economic conditions on the one hand and general political or societal violence on the other. For example, an often cited research paper by Collier and Hoeffler (2004) concluded that civil wars can be explained and predicted by economic rather than political variables. Other relevant research by Miguel, Satyanath, and Sergenti (2004) showed that exogenous shocks to the economies of agrarian Sub-Saharan African states, caused by variation in rainfall, increased the likelihood of civil conflict in this region. Additionally, Alesina, Ozler, Roubini and Swagel, (1996) found that poor economic conditions positively correlated to the occurrence of coups in countries around the world (Abadie, 2006).

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<sup>7</sup> See <http://www.nytimes.com/2010/01/17/world/africa/17abdulmutallab.html?pagewanted=all> and <http://www.nytimes.com/2010/05/16/nyregion/16suspect.html?sq=faisal&st=cse&scp=1&pagewanted=all> (accessed 16 May 2010)

These research findings seem to suggest that there is indeed a direct connection between violence and economic factors. However, the picture blurs the closer we look. First, it should be noted that the above mentioned studies focus on civil and political violence, not terrorism or radicalization. This is a highly relevant distinction, as terrorism is only one very specific category in a broad spectrum of violent behaviour. For example, terrorist attacks occur in countries which do not experience civil war or other forms of political violence (e.g., England). Similarly, not every form of political violence can or should be labeled terrorism. Last, while it is shown that economic factors can explain some types of political violence, these studies do not show or explain why there are countries that face poor economic conditions or experience economic instability, but do *not* face coups, civil wars and other types of political violence.

The research on this topic can be divided into two groups, which will be referred to as narrow and broad studies. Narrow studies are those studies that focus mainly on economic variables and exclude most, though not all, social, political or demographic factors. This allows researchers to zoom in and study the relationship between two variables at a time. The second group of studies looks at economic factors in conjunction with broader variables. Including factors such as education, quality of life, or political freedom allows researchers to control for these variables. Not surprisingly, the outcomes of these two groups of studies are very different.

With regards to narrow group, two studies in particular are worth reviewing here. In one often-cited paper, Blomberg, Hess and Weerapana (2004b) discuss the relation between the incidence of terrorism and economic factors. More specifically, the study focuses on dissident groups dissatisfied with the economic status quo in a given society. The authors theorize that these dissident groups choose between one of two possible types of conflict during times of economic change: rebellion or terrorism. A rebellion is more costly but, if successful, would give the rebellious group control over the economy. Terrorist attacks, by contrast, are less costly but would *not* give the terrorist group a greater share of the economy. Instead, terrorist attacks simply disrupt the economic status quo for a short period of time. The authors predict that during poor economic times and time of economic change, dissident groups will be more likely to carry out terrorist attacks instead of rebellions.

Based on their analyses, the authors report a strong relationship between economic contractions and terrorist incidents. Specifically, economic contractions increase the likelihood of future terrorist events by dissident groups. This link, however, is not constant among all countries. In particular, the relationship between terrorism and the economy seems more important in high income countries than in low income countries, and in democratic countries than in non-democratic countries.

However, there are some key criticisms. First, the authors acknowledge that the theoretical model only explores economic causes of terrorist activity, and does not take into account ideology or beliefs. Second, the model does not teach us anything about dissident groups who have no economic interest at all in a given country. This could include, for example, individuals and groups who carry out terrorist attacks in other countries unrelated to their own, or individuals and groups who live in a society but live “off the grid” and have no stake in the economy of a society.

A second study in the narrow group is by Freytag, Krüger, Meierrieks, and Schneider (2009), who analyzed the economic and political situation in countries where terrorists originate by focusing on “opportunity costs”<sup>8</sup> of terrorism activity. The study’s data on terrorist incidents came from the Terrorist Knowledge Base of the Oklahoma City National Memorial Institute for the Prevention of Terrorism (MIPT). The authors measured the opportunity costs of terror through three groups of variables: macro-economic indicators, population properties and institutional-economic indicators. The macro-economic indicators measure the openness of a country to foreign trade, population indicators include data on education and human capital, and the institutional-economic indicators measure economic freedom within countries.

The findings of their regression analysis were mixed: one of the main conclusions was that GDP per capita was negatively associated with terror, as is the degree of economic freedom (Freytag et al., 2009). Interestingly, when analyzing government spending, the authors find a regional difference: in European countries, national government spending is negatively correlated with terror, while in Islamic countries, national spending is positively correlated with terror. A third conclusion is that in countries below a certain economic threshold, economic growth actually encourages terror. However, once a country rises above the economic threshold, the risk of terrorism decreases. These findings suggest that richer countries do not produce as many terrorist groups because the opportunity cost of engaging in terrorism is higher.

It should be noted that while the Freytag study (2009) focused mainly on economic variables, the authors do, in an afterthought, suggest that their analysis may not hold in all cases. For example, their model is silent on radicalized individuals and groups that might not have an interest in improving a country’s economic situation or otherwise work deliberately to oppose economic reform to further their own political agenda.

The results from the two studies in the narrow group, though interesting, differ significantly from those in the broad group of studies on this topic. The narrow studies differ in that they include data on social, political and demographic variables.

For example, Piazza (2006) analyses the relationship between poverty and incidence and intensity of terrorism in 96 countries between 1986 and 2002. The data from this study originated from a US State department database. The authors grouped dependant variables by three overarching themes: economic, demographic and political. The economic variables, for example include: the Human Development Index (HDI)<sup>9</sup>, GDP, inflation, unemployment rate, and GINI Index.<sup>10</sup> The demographic variables include: population, population growth, and ethno-religious diversity. The political variables include: repression (based on political and civil freedom), degree of change in political freedom, and number of political parties.

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<sup>8</sup> Opportunity cost is a concept in economics, developed by John Stuart Mill, that measures the next-highest value of an alternative. The importance of this concept lies in that it calculates not only monetary value, but all other cost as well (e.g., time or effort).

<sup>9</sup> The Human Development Index, a composite statistic introduced by the UNDP in the 1990’s, measures well-being based on GDP, Life Expectancy, Education and Standard of Living.

<sup>10</sup> The GINI Index, based on the GINI-coefficient, is the most commonly used measure of distribution of income in a society, more popularly known as income inequality. It is a statistical measure that helps analyze ‘relative poverty’ in society.

In contrast with the above mentioned studies that do not control for non-economic variables (e.g. Freytag, 2009), the results of the regression analysis demonstrate that:

*...there is no empirical evidence to support the crux of the “rooted-in-poverty” thesis - popularized by world leaders, the media and some scholars - that poor economic development, measured as low levels of per capita income, literacy, life expectancy, more equal distribution of wealth, growth of GDP, stable prices, employment opportunities, and food security, is related to increased levels of terrorism.*

Interestingly, Piazza (2006) does find support for the relation between the number and the strength of party systems in societies and incidence of terrorism. Specifically, the author argues that the so-called “social cleavage theory” of party systems can be an explanatory tool for this finding. Specifically, the social cleavage theory suggests that the number of political parties in government is inversely related to the strength and stability of party systems. Thus, countries with severe divisions along ethnic, religious, regional or socio-economic lines are more likely to be weak party systems that have trouble integrating all of the different political perspectives into policy, in turn making them vulnerable to terrorism.

Other authors make similar conclusions to Piazza (2006). A similar regression analysis by Abadie (2006) uses the World Market Research Center’s Global Terrorism Index, which provides risk ratings of the likelihood of terrorist attacks on country level. It bases the risk of terrorist attacks on five factors: motivation, presence, scale, efficacy of terrorist groups, and the prevention of terrorism. To measure poverty, the study relied on GDP, HDI and GINI datasets. Like Piazza (2006), Abadie (2006) included political freedom in his analysis, relying on Freedom Houses’ Political Rights Index (PRI).

Abadie (2006) similarly fails to find a significant association between terrorism and economic variables. The only important association that was found in this study is the nonmonotonic relation between terrorism and political freedom. Specifically, Abadie found that countries in transition from authoritarian to democratic regimes are more likely to experience terrorist incidents.

Additionally, Krueger and Malečková (2003) were interested in *who* carries out terrorist attacks and whether relatively well-off individuals from poor countries are attracted to terrorist organizations, using data on contemporary cross-country terrorist incidents between the years 1997 and 2001. Unfortunately, the country of origin of terrorists is not always known. They found that when controlling for other variables (e.g., population), the income level of a country is unrelated to the number of terrorists the country produces. Rather, the number of terrorists a country produces was significantly negatively related to the degree of civil liberties:

*At a given level of income, countries with greater civil liberties - defined by the Freedom House organization of the “freedom to develop views, institutions and personal autonomy without interference from the state” are less likely to be a wellspring of international terrorists. This variable seems to matter more than political freedoms, another Freedom House variable that we tried, for predicting terrorism (Krueger & Maleckova, 2003).*

In a follow-up study Krueger and Laitin (2008) included more recent data (1997-2003) and added a second dataset of suicide attacks in 11 countries since 1980. Again, the authors failed to find a link between economic variables and the country of origin of terrorists. Instead, political oppression was positively associated with both terrorist incidents and number of terrorists produced, at the national level.

Another perspective is provided by Akdede, Hwang and Can (2008), who studied the relation between public spending, ethnic and cultural diversity, and political violence. Specifically, they examined whether countries that are more culturally diverse experience more political violence, and whether the amount of public spending influences political violence in diverse countries. The relationships between the variables were analyzed for the period between 1980 and 2000. The authors found that ethnic and cultural diversity did not trigger political violence during the 1980s. Instead, political violence was predicted by economic conditions: countries that had low or high levels of GDP per capita experienced less political violence. Political violence was heightened in countries whose GDP was neither high nor low. During the 1990s, this trend changed dramatically and the association between economic variables and political violence dropped. Instead, democracy, democratization and diversity predicted the onset of political violence: ethnic diversity and weak democracies were both positively associated with political violence. Results were similar for the intensity of political violence: political violence was most intense in countries whose economies were neither strong nor weak during the 1980s and in countries with weak democracies during the 1990s. Last, public spending was inversely related to political violence. This must be explained by increased spending on public safety and security, as spending on public health and education was not found to be relevant.

Burgoon (2006) builds on this theme of public expenditure and tests whether public spending in the form of social policies (e.g., social security, unemployment, health, and education) reduces the threat of terrorism. Specifically, the author focused on: incidents of total terrorism per country, transnational terrorism per country and nationality of the perpetrators. The results suggest that, after controlling for other variables, (e.g., political philosophy [left or right of centre] of the government, population size, general conflict, and democracy) social policies are negatively correlated with terrorism (i.e., the more greater the investment in social welfare programs, the less a country will experience terrorist attacks and the less its citizens will carry out terrorist acts). These results suggest that increasing social policies is an effective measure to combat terrorism, and researchers are starting to explore this linkage. While Burgoon's research points out that there is a strong correlation between social policies and terrorism, we should bear in mind that this correlation does not prove causation. Moreover, we do not yet understand by what mechanisms social policies could decrease terrorism. Section 5 will more fully discuss using social policies as a preventive measure.

## 5 PREVENTION OF RADICALIZATION

*“...to defeat an idea, you have to offer a better idea, a more attractive and acceptable one.” (Amos Oz)*

### 5.1 Introduction

Based on the above discussion and the available data, it is difficult to determine whether there are ways to prevent radicalization processes insofar as they are related to economic factors. Although the data show that there is no linkage between economic distress and radicalization, it is possible that economic distress may still exacerbate the radicalization process, making it difficult to propose a prevention strategy that is a panacea. This problem is worsened by the fact that there are very little data on this topic: most research focuses on how one becomes a terrorist, not how one ceases to be a terrorist. Moreover, the little research that is available on the topic suggests that factors that do play a role in the onset of terrorism are not the same factors that may play a role in diminishing or reducing terrorism or radicalization (e.g., financial reasons). There are, however, generalizations that will hold regardless of the prevention strategy chosen. For instance, Taylor and Morgan (2006) argue that terrorism is a process and therefore prevention must focus on disrupting that process. Others have observed that prevention can only work if it does not affect the core values of the targeted group (e.g., Atran, 2010). These generalizations also hint that prevention of radicalization is not a “single shot”; it is an ongoing effort over the life of the potential radical. The solution may ultimately depend upon an acceptable viewpoint being shared and demonstrated by all societies and cultures around the world so that differences in belief, values, and approaches are respected and the common aims of all people (summed up as “living a happy life”) are used to reduce the psychological distance between people.

This section is organized as follows: First, it will discuss disciplines related to radicalization (crime, gangs, and extremism) and how they could add to theories of de-radicalization. Then the review will turn to data on counter-radicalization strategies. Where possible, the section will highlight policy implications.

### 5.2 Crime and Criminal gangs

Bearing in mind both the differences and similarities between crime and radicalization, as discussed in Section 4, it is relevant to look briefly at the study of crime and efforts to combat crime on the individual and societal levels.

The link between economic deprivation and crime is two-fold: (a) lack of economic opportunity in the formal economy often leads to crime, and (b) economic upheaval, especially in combination with weak political institutions, is conducive to transnational organized crime (Atran 2010; Castells 1997). However, these two observations point to different types of crime. The first type may be labeled crimes of opportunity. Reducing economic uncertainty, especially for youth, may indeed help reduce this kind of crime. The second type is more challenging; transnational organized crime cannot be labeled “opportunity crime”. Instead it is better described as highly organized and profitable premeditated crime (Castells, 1997). Interestingly, many transnational

organizations have ties with radical groups as, for example, suppliers of arms and weapons. However, as these organizations' goals and interests are different from those of radical groups; fighting transnational organized crime requires a different approach from fighting transnational radical groups.

It may be instructive to borrow concepts about crime from the criminological literature. An important idea to highlight for this report is that criminal behaviour can be understood as a pathway or a process (Taylor & Horgan, 2006) This means that criminal behaviour develops over time and individuals who participate in crime have to be understood in the context of moving into or away from criminal behaviour. In the words of Taylor and Horgan (2006): “Essential to understanding this [development of criminal behavior] is the concept of “trajectory”, which is the pathway of development for the individual marked by a sequence of transitions. Every trajectory has an entry point, success point, and the element of timing; transitions refer to the life events themselves that are embedded in the trajectories”. The idea of behaviour as a process is useful for understanding the formation of criminals and terrorists alike, as discussed earlier in Section 3. In addition, it also gives us insights with regards to criminal disengagement and de-radicalization.

For crime, the idea of criminal behaviour as a pathway that develops has been useful in gang intervention as it has allowed for focusing on changing behaviour at critical decision points within an individual's process (Decker & Van Winckle, 1996). The study of gang intervention has focused in particular on the difficulty with superseding feelings of belonging and identity that gangs provide. Decker and Van Winckle (1996) have found that leaving the gang is easiest when an individual chooses to move away from the territory where the gang has “jurisdiction”. When that is not possible, individuals may opt for maintaining friendships and political alliances, but cease participation in gang activities. Interestingly, the time that is most conducive for gang-intervention strategy is immediately after violence has taken place, but before the gang has had a chance to collectively reframe the incident of violence as part of their identity or an act of heroism (Decker & Van Winckle, 1996).

These findings confirm the utility of thinking of gang membership as a trajectory. Moreover, the insight that individuals are most open to rethinking membership in a gang after experiencing violence is of great importance to de-radicalization efforts. However, *how* to intervene is not always clear. Some findings in gang intervention (discussed in Decker & Van Winckle, 1996) suggest that efforts that target the group as a whole increase gang solidarity, and by extension increase violence. Other findings suggest that positive incentives may be a useful tool, but only when targeted at members at the fringe of a gang (also discussed in Decker & Van Winckle, 1996).

### 5.3 Extremist groups

Similarly, there are some interesting data from extremist groups in Latin America pertaining to negotiation with extremist groups. Most data on extremist groups come from programs that aim to reintegrate combatants who at one point were members of extremist groups (Horgan & Braddock, 2010). This often takes the shape of a larger set of negotiated principles, known as Demobilization, Disarmament and Reintegration (DDR), and has been carried out in states and regions as diverse as Uganda, Aceh, Kosovo, and El Salvador, among others (Horgan, 2008).

The core of the program is that hostilities are ended during negotiation, arms surrendered and combatants reintegrated in society.

The DDR principles have not always been successful. Nicaragua's experiences, for instance, point to the possible positive role of including resistance and revolutionary groups in a democratic framework, but only when there is enough institutional capability and political will (Horgan, 2008). When Nicaragua's resistance groups agreed to lay down their weapons, they did so in exchange for promises of land, credit, the ability to participate in politics and participation in local security forces. However, efforts to demobilize the contras was generally unsuccessful, and levels of violence increased after it became clear that these promises could not be kept for lack of political will and institutional capability. Individuals re-mobilized along three lines: (a) those who fought for ideological reasons, (b) those who wanted to hold the government accountable to the peace agreement, and (c) those who wanted to take advantage of the anarchy through crime.

Peru, by contrast, crippled the Shining Path by capturing the principal leader of the group, and refusing to negotiate with the movement. However, this strategy came at great cost to basic human rights and democracy (Arnson, 1999). Colombia's process of negotiating with and demobilizing extremist groups is perhaps the most sophisticated and complex in Latin America. In short, fighters (from both side of the conflict) were promised welfare benefits (i.e., health care, clothing and education) in return for laying down their weapons and moving out of the location where extremist groups are present. While rates of violence dropped significantly, there are real concerns about de-mobilized combatants moving into crime and gangs (Horgan & Braddock, 2010). Outside of the Americas, records are similarly mixed. Ireland, for example, is a country where experiences with reintegration are generally considered successful. As the Secretary of State for Northern Ireland in the early 2000s, Peter Mandelson argued, "Reintegrating combatants in society has helped the peace process forward". He further claimed that ex-combatants were generally supportive of the peace process and have "overwhelmingly" avoided re-offending (Horgan & Braddock, 2010).

In the examples above, several things stand out. First is the sheer diversity of strategies that aim to prevent extremism and curb violence. This is a reflection of the diversity of extremist groups. Moreover, strategies have to be culturally relevant. What works in Colombia may or may not work in Sweden. Likewise, what works in the United States may or may not work in Canada. Of similar significance is the importance of the idea of extremism as a trajectory or a process. This holds true at both the individual and group levels. Extremist groups do not suddenly appear; many are the result of long term real or perceived injustices. Also important is the broad support of many extremist groups from those who are sympathetic to their goals but who do not use violence (Lipset, 1959).

These and numerous other case studies suggest that peace processes and DDR programs tend to be successful when there are opportunities for jobs and to rebuild a life for ex-combatants, when political grievances are acknowledged or addressed, and when local communities are involved in the programs. However, when there is a lack of political will or capability, when communities are not involved or when there are no opportunities to build a life outside of the extremist groups, DDR is generally unsuccessful (Public International Law and Policy Group, 2006).

Moghaddam (2005) provides additional suggestions for counter-terrorism policy; in particular, prevention must come first. It is not sufficient to wait for terrorism to occur and then address it; by that point it is too late. Instead, policies must be adopted before terrorism occurs that keeps individuals off the staircase entirely. Specifically, Moghaddam claims that certain conditions predispose some individuals to harm both others and themselves, so conditions on the ground floor must be improved. Moghaddam also argues that the strategy of identifying and eliminating individual terrorists is extremely costly and counterproductive, since as long as conditions on the ground floor remain poor, terrorists who are eliminated are quickly replaced by others. Moghaddam advocates that: (a) countries support contextualized democracy (i.e., a form of democracy that takes account of local cultural practices and symbolic systems) through procedural justice, (b) people are educated against the categorical us-versus-them thinking, and (c) countries promote interobjectivity (the understandings shared within and between cultures) and justice. This last point is arguably hardest, because it requires societies to engage with those who have carried out terrorist acts and understand their reasons.

## 5.4 De-radicalization and disengagement

The above findings may have policy implications, but it should be remembered that DDR processes have only been tried with groups that have resorted to violence (Horgan & Braddock, 2010). However, it does not tell us a lot about prevention of ideas and behavior that result in violence. The government and research communities need to define more precisely what we mean by de-radicalization. Several authors have tried to make a distinction based on behavioural modification versus ideological or attitudinal modification (e.g., Horgan, 2008). De-radicalization then refers to the attitudinal or ideological change, and disengagement refers to a change in behaviour (Horgan, 2008). For counterterrorism, it is argued that the primary focus should be on the behavioural component and aim for radical groups to stop engaging in terrorism (Horgan, 2008). Pure prevention efforts aim to address behaviour, attitude, and ideology; however, programs focusing on changing ideology alone are generally considered ineffective (Horgan, 2008).

A second component important for this discussion (after the behavioural component) is the observation that the factors that are important for radicalization to occur may not necessarily be the same as the factors that can help in de-radicalization efforts (Atran 2010; for a case study, see Mozzafari, 1991). Third, we should distinguish between efforts that focus on individual de-radicalization and efforts that focus on entire groups. These are different processes, but cannot be considered in isolation from each other. Studies on social networks (discussed below; e.g., Demant, Slootman, Buijs, & Tillie, 2008) illustrate this point. Last, the literature suggests that leaders and followers have different levels of commitment to the groups and to the cause they pursue (Crenshaw, 1981). Therefore, leaders and followers will likely require different approaches if de-radicalization is to be successful.

We know, as discussed in previous sections, that several factors are negatively correlated with incidence of terrorism: political freedom, civil liberties and social policies. Thus, while many states struggle, often for electoral reasons, with the issue of political freedom and civil liberties after experiencing terrorism, data suggest that strong and principled democratic traditions may decrease terrorism (Blomberg et al., 2004b). The reasons for the correlation between social policies and terrorism however are not fully understood, and more research in this area is

needed. It may be that social policies weaken the overall societal support for terrorism and radical groups, reducing the number of willing recruits. This would be in line with the observations by Lipset (1959), discussed in Section 4, that the extremist groups do not exist in a vacuum, but are the interpreters of extremist positions that have moderate, and legitimate, counterparts in broader society and politics. Thus, focusing on social policies that benefit moderate groups in society and legitimize their concerns may drive a wedge between moderate groups and extremists and erode any kind of support or feeder network for the extremist group.

Another promising area that is important to understanding de-radicalization is the role of social networks. Social networks are considered very important in recruitment and retention of individuals in radical groups, and from the little research that is available, prevention and de-radicalization as well (Ressler, 2006). Radical groups provide members with a strong social network and a group-derived identity. Leaving a radical group thus also means leaving a social network behind. If efforts do not include other social networks (e.g., family, peers, role models and societal groups) that may help to moderate radical individuals, de-radicalization will likely fail. For prevention purposes, social networks are increasingly seen as critical for policy.

One particularly influential study, carried out by the Dutch Institute for Migration and Ethnic Studies, recommends that the most important issue in preventing radicalization in Europe is fighting social isolation, by building networks and trust in ethical and religious organizations (Demant, Sloom, Buijs, & Tillie, 2008). This approach, initiated in Amsterdam after the murder on Theo van Gogh by a young radicalized man, is now used by several other European cities, and remains one of the most influential policy documents on radicalization prevention in Europe.<sup>11</sup> The two year long multidisciplinary study focused on the theory and practice of de-radicalization processes, and included many historical cases of right- and left-wing extremism and radical groups in Europe. None of the lessons-learned or success factors included economic factors. As this document is one of the very few studies on the topic, some of the main findings will be presented here.

First, Demant et al., (2008) point out that radical groups can best be understood as social movements, and motivations to join these movements include ideological, identity and instrumental factors. Ideological factors provide both meaning and motivation by offering an analysis of the current social order, an (often utopian) vision of the future, and a pathway of how this future can be realized. The identity factor refers to the need of individuals to feel part of a larger group or organization. Instrumental factors are largely practical in nature, and refer to what individuals expect to gain from membership in a social movement or organization. These three factors also play a role in de-radicalization processes.

First, the ideological factor can play a role in de-radicalization when an individual is no longer convinced by the group's ideologies. This may happen when there is a disconnect between the group's goal and means or when the pathway to a utopian future fails. This (i.e., disconnecting from the group's ideologies) is most likely to happen directly after a violent event, similar to the findings from gang intervention research (Demant et al., 2008). Other reasons why individuals doubt the ideology is when there is a lack of success in accomplishing the group's goals

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<sup>11</sup> See also the recent New York Times article at <http://www.nytimes.com/2010/05/30/magazine/30Mayor-t.html?ref=magazine&pagewanted=all> accessed 31 May 2010.

(Demant et al., 2008). The identity factor is closely associated with the identity that the organization bestows on individuals. However, when members start to question the importance of the identity of the group or his or her role herein (e.g., by doubting the leader of the group or realizing that the identity the group bestows on them does not correspond with their expectations), de-radicalization may occur. The instrumental factors that may play a role in de-radicalization include issues such as the desire to start a family, which is often incompatible with membership in a radical group, or the belief that membership has negative repercussions for future career options (Demant et al., 2008).

Taking the analysis of these three factors a step further, the authors then draw on the work of Wright (1991) who analyzed sects (i.e., an organization that breaks away from a larger one to follow a different set of rules and principles). In particular, Wright stressed the idea of 'commitment', being committed to a movement, and made the analogy that commitment to a social movement is similar to commitment in other relationships, such as marriage. Demant et al. (2008) took this idea of commitment even further, and refined it in three sub-components: normative commitment, affective commitment and continuation commitment. Normative commitment refers to the perceived moral duty to stay in the group and is the result of a long socialization process. When there is a strong overlap between the ideology of the group and the individual, the normative commitment is high. Affective commitment refers to the emotional bond individuals feel with the group. Affective commitment is directly related to direct participation: the more an individual actively participates in the group, the stronger the affective commitment. However, when an individual is not very active, the affective commitment factor will decrease as well. Last, the continuation commitment refers to the costs associated with leaving the group. While having better alternatives outside the group often is not the main reason why individuals choose to leave, these may help if the other two commitments are questioned. De-radicalization efforts should be precise in mapping the commitments of a given group, and de-radicalization programs should reflect how important these commitments are to a given group.

Demant et al. (2008) also theorized that these commitments can play a role in failures of de-radicalization programs. In particular, they argued, these commitments are hindered by a number of "thresholds" that have to be overcome for de-radicalization to occur. These thresholds include social dependency, psychological dependency, the investment made, reprisals, fear of loss of status and lack of opportunity outside the group.

When seen in a table, the relationship between motivating factors, commitment and thresholds are as follows (Table 5-1):

**Table 5-1: De-radicalization and Motivating Factors**

<b>Motivating factors in joining a radical group:</b>	<b>Ideology</b>	<b>Identity</b>	<b>Instrumental</b>
<b>De-radicalization occurs when:</b>	There is a decrease in normative commitment	There is a decrease in affective commitment	There is a decrease in continuation commitment
<b>De-radicalization is hindered by:</b>	Normative “thresholds”	Affective “thresholds”	Continuation “thresholds”

Source: Demant et al., (2008)

The report concludes with several recommendations for Dutch policymakers, based on the theoretical considerations and the case studies. However, considering the similarities between The Netherlands and Canada, they might very well be relevant for the Canadian case. The general recommendations, in addition to the already mentioned item of strengthening social networks, stress the importance of including moderate voices in the democratic process (Demant et al., 2008). This recommendation requires listening to the opinions of a wide variety of actors from across the larger social and religious spectrum and not dismissing opinions or considering criticism to be necessarily illegitimate.

Moreover, successful de-radicalization efforts should, where possible, target normative, affective and continuation commitments. However, each of these commitments warrants a different approach (Demant et al., 2008). For example, normative commitment are most often influenced by “significant others” (peers, religions leaders, teachers, imams or family; Demant et al., 2008). Affective commitments can be challenged by strengthening networks outside of the radical group, and undermining the emotional commitment to the group by influencing the radical to believe they are outside the group (Demant et al., 2008). Last, continuation commitments can be targeted by simultaneously stressing the consequences of group membership in combination with practical tools that help individuals build their lives outside of the group. Importantly, the authors recognize that radicalization prevention and de-radicalization programs are most likely to succeed in early stages of radicalization, during the stages of self-identification and early stages of indoctrination (Silber, 2010).

These findings can have significant consequences for de-radicalization programs and the conclusions reached by Demant et al. (2008) are echoed by others. For example, Atran (2010) has developed a successful model for conducting science-based research on radicalization. This approach uses multi-disciplinary teams of researchers, including anthropologists, psychologists, cultural geographers and economists, in potential hot-spots. Findings from these teams, recently presented at the United States Senate Armed Services Subcommittee on Emerging Threats and Capabilities, echo some of the findings described above, yet also provide more in-depth anthropological knowledge and insights about de-radicalization efforts.

Atran (2010) argues that individuals who join radical groups are more likely to come from moderate backgrounds and have received secular education. In Atran's words:

*...where in modern society do you find young people who hang on the words of older educators and "moderates"? Youth generally favors actions, not words, and challenge, not calm. That's a big reason so many who are bored, underemployed, overqualified, and underwhelmed by hopes for the future turn on to jihad with their friends. Jihad is an egalitarian, equal-opportunity employer (at least for boys, but girls are web-surfing into the act): fraternal, fast-breaking, thrilling, glorious, and cool. Anyone is welcome to try his hand at slicing off the head of Goliath with a paper cutter (Atran, 2010).*

Atran's (2010) recommendations mostly highlight the importance of bottom-up approaches to de-radicalization. For example, he points to a successful program in Iraq, where families and communities are responsible for keeping the behaviour of former detainees in check. This program addressed some of the main cultural sensitivities of detainees and respect for their communities. He also points to other bottom-up approaches that include local communities. Building resilience in local communities is, according to Atran's findings, one of the most effective approaches in the long run. The key thus seems not merely offering a better idea in our eyes, but offering an idea that local communities consider to be a better idea as well.

Many influential speakers point to the role of "ignorance" in the development of a terrorist. Al Gore has pointed to an "evil axis" formed primarily by poverty and ignorance, and Colin Powell has stated "I fully believe that the root cause of terrorism does come from situations where there is poverty, where there is ignorance, where people see no hope in their lives." Laura Bush contrasted ignorance with education: "A lasting victory in the war against terror depends on educating the world's children because educated children are much more likely to embrace the values that defeat terror." However, as Berrebi (2003) makes amply clear:

*"policy-makers, when trying to reduce terrorism via education or income, should focus not on the amount of education but on the content of education; changing the substance when needed in order to create positive stimulations towards democracy, moderation, appeasement and coexistence" (Berrebi, 2003).*

To support his point, Berrebi presents excerpts from official Palestinian Authority textbooks:

*"Indeed, Satan has, in the eyes of many people, made their evil actions appear beautiful...Such a people are the Jews..." (Islamic Education for Eighth Grade #576)*

*"This religion will defeat all other religions and it will be disseminated, by Allah's will, through the Muslim Jihad fighters." (Islamic Education for Seventh Grade #564)*

*"Determine what is the subject, and what is the predicate, in the following sentences: The Jihad is a religious duty of every Muslim man and woman." (Our Arabic Language for Fifth Grade #542)*

*“The clearest examples of racist belief and racial discrimination in the world are Nazism and Zionism.” (Modern Arab History for Twelfth Grade #648)*

Clearly, when the official educational curriculum of a nation encourages holy war and religious intolerance, its people may be predisposed toward certain attitudes, some of which may seem radical or extreme to those of us in the West who tend to be more politically central in our attitudes.

Disengagement from a radical or terrorist movement may also occur purely because of cumulative stress and fear. As with wartime soldiers, the pressure of concealment, dissimulation (concealing the truth), fear of capture and/or death may pass some threshold and the individual experiences some form of “battle fatigue” (Berrebi, 2003). Another possible factor in disengagement can be that a charismatic and admired leader is captured, killed, or deposed, and his successor does not inspire the same level of loyalty (Berrebi, 2003). Sometimes, there may be no underlying explanation; it is just down to chance and circumstance (Berrebi, 2003).

In this review, prevention has been discussed from a sociological, rather than economic or psychological, framework. Given then current empirical evidence (or lack thereof) it is unlikely that de-radicalization efforts that focus on economic or psychological factors would be effective in the Canadian context. Prevention of radicalization in Canada is likely to depend upon the continuing inclusion of all people in the democratic dialogue. In conclusion, there is not one prescription or magic bullet to end radicalization processes, and there is much that we do not yet know. However, these findings and policy recommendations are an important starting point for further research.

## 6 CONCLUSIONS

There is an unacknowledged belief that it is possible to pick a future radical out of the crowd, but this is almost certainly not possible. Rather, there is a complicated mix of factors that will not all present at the same time or under predictable situations or circumstances. As a counterpoint, consider the nature of an identifiable psychological problem: Attention-Deficit Hyperactivity Disorder (for example) has a cluster of symptoms that present together, or in predictable circumstances, making it relatively straight-forward for the clinician to study the individual concerned and to diagnose the disorder. Terrorism and radicalization are not like this: these are not crazy people with a collection of abnormal psychological elements; they are people who are making decisions on a rational basis who are similar to everyone else around them. They do not present symptoms that they themselves are not aware of or unable to control. Radicals are aware that their perspectives and actions differ from those of other people and they make a conscious decision to take that position and hide the fact from those who might threaten their liberty to do so (Moghaddam, 2005). Radicalization is most likely a process that begins early and is always in action.

This review represents a first attempt to understand the psychological processes involved in radicalization and de-radicalization and their relationship to the economic climate. The report has highlighted the utility of thinking of radicalization as a process, not a syndrome. The implications of taking this process perspective are profound. Rather than treating radicalization as a psychopathology, we need to understand radicalization as a pathway that can lead towards and away from terrorism. Any strategy aimed at prevention must be applicable to groups that differ in terms of their culture, age, origins, educational background, and many other factors.

With regards to the psychological processes involved in radicalization, researchers have implicated a number of different theories in their considerations of radicalization. Unfortunately, the theories remain untested on proven radicals, extremists and terrorists. There is very little empirical evidence to suggest any particularly significant psychological process at work in radicalization. This report has described a number of different potentially contributing psychological processes in relation to radicalization, any, all, or none of which may be experienced by the individual who eventually radicalizes. A key difficulty with these theories, however, is that the variables involved do not distinguish terrorists from non-terrorists—they merely describe processes that may be involved. Many in society would exhibit traits that have been associated with radicalization, but enjoy group bonding and catharsis as in, for example, a paintball game rather than these traits being a precursor to involvement in terrorist activities.

Likewise, the data to support a link between radicalization and the national economic climate are sparse. Therefore, it has not been possible to suggest, even in the most tenuous terms, how the economic climate could affect psychological processes of radicalization. In many ways, given the evidence, this is not surprising. There does not seem to be any reliable stress “syndrome” due to an economic downturn. Instead, the same circumstances may drive one person to violent frustration, anger and helplessness, and another to choose an alternative path, leading to great success. Given the available evidence, it is difficult, if not impossible to reliably link psychological processes of radicalization to changes in the national economic climate.

Considered independently however, there are still avenues for experimental investigation of both the psychological process and the effect of an economic crisis. Obviously the experiments of McGregor on the subjects of religious and defensive zeal (McGregor & Jordan, 2007; McGregor and Marigold, 2003) can be continued, adding a component of economic distress to investigate whether this would exacerbate the outcomes (either in how quickly they radicalize, or the severity of their radical acts). Psychological distance could be investigated experimentally to determine whether people adopt a more radical perspective on a topic if they are convinced that they are more distant (i.e., morally distinct) from those holding a contradictory view on the topic. Finally, mortality salience could also be investigated to see if people adopt more extreme strategies to achieve their goals if they believe their time to do so is limited (this could be investigated in video games with time limited sessions during which the participant is given an objective that requires them to “break the rules” to be successful).

There seem to be two issues that arise repeatedly when considering experimentation on the psychological processes associated with radicalization: the time available and the ethics of such an experiment. Two of the most attractive theories (Pressman, 2008; Horgan, 2008) explicitly note that radicalization is a long-term process passing through several stages. This makes it very difficult to devise an experiment that effectively starts participants with a “blank slate” and then manipulates them to the point that they choose a radical agenda. If the psychological process can be manipulated in a shorter time-span, then the ethical considerations of the manipulation must be considered. Previous work (e.g., the famous work of Milgram, 1963, and Zimbardo, 1971) has manipulated participants so successfully that they have carried out acts that, previously, participants would not have thought themselves capable. Any such experiments carried out by DRDC Toronto would need to pass strict ethical review to ensure that no psychological damage was done to participants. These two issues also explain why so much of the research on these psychological phenomena is based on observation, rather than experimental data.

The review has also highlighted how individuals generally feel committed to groups, similar to feeling committed to other social movements. These feelings of commitment are not static; instead they change throughout the radicalization process. The report has noted that radical groups can be understood as extremist and violent interpreters of larger political and ideological beliefs. By highlighting this, we can more carefully differentiate between legitimate movements and extremist groups.

To study the effect of the economy on radicalization, it may also be possible to use video games. It is very common for individuals to be involved in “massive multi-player” online role-playing games, and these may be useful for the construction of micro-worlds in which to conduct experiments that investigate both radicalization and the effect of the economy on an individual’s propensity to radicalize. The video game paradigm would benefit from the long-term commitment of many players, assuming the game engaged the players. Outside of video games, it is unlikely that the same manner of stress can be created in experimental participants, because the participant will not be as emotionally invested in the experiment as they would be in life or in a video game.

Considering what this review has demonstrated on prevention, there seems to be one predominant approach: counter-radicalization policy developed by Demant et al. (2008) that

considers “commitments” and attempts to manipulate an individual’s commitment to favour the status quo for violent activities. This, at least superficially, would seem to be a model that is applicable across the range of requirements mentioned above (e.g., age, culture, etc.). Given what has also been reviewed about the language and education of some radicals in other countries, prevention in many countries (including Canada) is probably most likely by encouraging more moderate language and opinions in people’s upbringing. Of course, this is contrary to the Western philosophy of not controlling the thought and opinions of its citizens. However, there will always be tension between fighting radicalization and guaranteeing personal freedoms. Such a policy could be pursued more acceptably through programs intended to bridge gaps between different sectors of society (e.g., educational programs focused on comparing belief systems targeted at age groups that might be vulnerable to radicalization, such as mid- to late-teens). Programs focused on funding for schools of different religions (e.g., as proposed by the Ontario Conservative party during the last provincial election in 2007) may increase radicalization rather than prevent it. The key may be respect and understanding for other groups, open discussion and dispassionate debate on issues that divide along religious and other contentious lines (e.g., race, gender, and heritage).

These broad findings raise more questions than they answer. Because so little is known about radicalization and de-radicalization, more research is both urgent and necessary. Future research should focus on several areas. First, research should continue to focus on radical groups as social movements. The complex interaction between affective and cognitive factors in social movements could help frame a broader, and therefore more exhaustive, response to radicalization.

Research should also focus on the issue of ideology: we do not have a sufficient understanding of what parts of radical ideology are attractive to individuals. Similarly, we know that contemporary radical groups have many sympathizers who look favourably on the aspirations of radical groups, but who do not become violent (Atran, 2010). We do not know why this is the case, nor do we do know what would weaken this tacit support. Likewise, we do not know the influence of other social groups, such as peers, family, and community (virtual and real) on individuals who are in the process of radicalization. Understanding the question from the perspective of ideology and how it influences individuals and groups will help us further inform research and establish better policy.

Thus, the authors also recommend a program of multi-disciplinary study of Canadian radicals to answer questions of why Canadians radicalize and how they justify anti-social activity. Since the problems are multifaceted and complex, only a multi-disciplinary approach will yield results: failing to develop an interdisciplinary approach, will only provide partial answers. Future research might consider coordination and collaboration with other research centres internationally, that have considerable expertise in radicalization research, such as RAND, the Institute for Migration and Ethnic Studies, or ARTIS (the research group specializing in understanding collective political and cultural violence, risk assessments and modeling).

In summary, there is no “smoking gun” regarding the psychological processes involved in radicalization. It is an inescapable conclusion that radicalization, and thus extremism and terrorism, generally begins early in one’s life in fairly benign ways, and depends upon the experiences one has and the perception one brings to those experiences.

## 7 REFERENCES

- Abadie, A., (2006). Poverty, Political Freedom, and the Roots of Terrorism. *The American Economic Review*, 96 (2), 50 – 56.
- Adelson, R. (2005). Hues and views: A cross-cultural study reveals how language shapes color perception. *Monitor on Psychology*. Washington, DC: American Psychological Association.
- Agnew, R. (1992). Foundation for a general strain theory of crime and delinquency. *Criminology*, 30 (1), 47-88.
- Agnew, R. (2006). *Pressured into crime: An overview of general strain theory*. Oxford: Oxford University Press.
- Akdede, S. H., Hwang, J., & Can, E. (2008). Cultural diversity, domestic political violence and public expenditures. *Defence and Peace Economics*, 19 (3), 235 - 247.
- Alesina, A., Ozler, S., Roubini, N., and Swagel, P. (1996). Political Instability and Economic Growth. *Journal of Economic Growth*, 1 (2), 189-211.
- Altemeyer, B. (1996). *The authoritarian spectre*. Harvard: Harvard University Press.
- American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders*. Fourth Edition.
- Aranson Cynthia J. (1999) *Comparative Peace Processes in Latin America*. Washington DC: Woodrow Wilson Center Press.
- Atran, S. (2003). Genesis of suicide terrorism. *Science*, 299, 1534-1539.
- Atran, S. (2010) Pathways to and from violent Extremism: the case for Science based field research. *Statement Before the Senate Armed Services Subcommittee on Emerging Threats & Capabilities*. March 10, 2010.
- Ball, M. & Orford, J. (2002). Meaningful patterns of activity amongst the long-term inner city unemployed: A qualitative study. *Journal of Community and Applied Social Psychology*, 12, 377-396.
- Becker, G.S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76 (2), 69-217.
- Bernoulli, D. (1738). *Specimen theoriae novae de mensura sortis* (Exposition of a new theory on the measurement of risk) (L. Sommer, Trans. 1968). Farnborough: Gregg.
- Berrebi, C. (2003). Evidence About the Link Between Education, Poverty and Terrorism Among Palestinians. Mimeo, Princeton University.

- Berrebi, C. (2009). The Economics of Terrorism and Counterterrorism: What Matters and Is Rational Choice Theory Helpful? *Social science for counterterrorism: Putting the pieces together*, pp. 151-207. Arlington, VA: RAND Corporation.
- Blair, J., Mitchell, D., and Blair, K. (2005). *The psychopath: Emotion and the brain*. London: Wiley-Blackwell.
- Blomberg, S. B., Hess, G. D., & Weerapana, A. (2004a). An economic model of terrorism. *Conflict Management and Peace Science*, 21, 17–28.
- Blomberg, S. B., Hess, G. D., & Weerapana, A. (2004b). Economic conditions and terrorism. *European Journal of Political Economy*, 20, 463-78.
- Brenner, M.H. (1973). *Mental illness and the economy*. Harvard: Harvard University Press.
- Burgoon, B. (2006). On welfare and terror: Social welfare policies and political-economic roots of terrorism. *The Journal of Conflict Resolution*, 50 (2), 176-203.
- Canache, D. (1996). Looking out my back door: The neighborhood context and perceptions of relative deprivation. *Political Research Quarterly*, 49, 547-571.
- Canetti-Nisim, D., Halperin, E., Sharvit, K., & Hobfoll, E.S., (2009). A new stress-based model of political extremism: Personal exposure to terrorism, psychological distress and exclusionist political attitudes. *Journal of Conflict Resolution*, 53, 363-389.
- Castells, M. (1997). *The information age: Economy, society and culture*. Volume III: End of Millennium. Malden, MA: Blackwell Publishers.
- Clark, R. P. (1983). Patterns in the lives of ETA members. *Terrorism: An International Journal*, 6 (3), 423 – 454.
- Collier, P. & Hoeffler, A. (2004). Greed and grievance in civil war. *Oxford Economic Papers*, 56, 563 – 595.
- Cooper, H. H. A. (1977). What is a terrorist: A psychological perspective. *Legal Medical Quarterly*, 1, 16 – 32.
- Cooper, H. H. A. (1978). Psychopath as terrorist: A psychological perspective. *Legal Medical Quarterly*, 1, 253 – 262.
- Corrado, R. R. (1981). A critique of the mental disorder perspective of political terrorism. *International Journal of Law and Psychiatry*, 4 (3-4), 293 – 309.
- CNN (2001). “Bush vows to rid the world of “evil-doers”. Retrieved 28 March 2011 from <http://archives.cnn.com/2001/us/09/16/gen.bush.terrorism/>.
- Crenshaw, M. (1981). The causes of terrorism. *Comparative Politics*, 13 (4), 379-399.

- Davis, P. & Craigin, K. (2009). Introduction. *Social science for counterterrorism: Putting the pieces together*, pp. 1-11. Arlington, VA: RAND Corporation.
- Decker, S.H. & van Winckle, B. (1996). I. Cambridge: Cambridge University Press.
- della Porta, D. (1988). Recruitment processes in clandestine political organizations: Italian left-wing terrorism. *International Social Movement Research*, 1, 155 – 169.
- Demant, F., Slooman, M., Buijs, F., & Tillie, J. (2008). “*Teruggang en uitbreiding: Processen van deradicalisering ontleed*”. Amsterdam: IMES.
- Derogatis, L.R. (1975). *The Brief Symptom Inventory*. Baltimore, MD: Johns Hopkins University and School of Medicine, Clinical Psychometrics Unit.
- Derogatis, L.R. (1977). *The SCL-90 manual: Scoring, administration and procedures for the SCL-90*. Baltimore, MD: Johns Hopkins University and School of Medicine, Clinical Psychometrics Unit.
- Downs, A. (1957). An economic theory of political action in a democracy. *The Journal of Political Economy*, 65 (2), 135 – 150.
- Freytag, A.; Krüger, J.J.; Meierrieks, D. & Schneider, F. (2009). “The Origins of Terrorism: Cross-Country Estimates on Socio-Economic Determinants of Terrorism.” *Center for International Economics Working Paper Series, No. 2009-01*. Paderborn: Germany.
- Green, D.P., Glaser, J., & Rich, A. (1998). From lynching to gay-bashing: The elusive connection between economic conditions and hate crime. *Journal of Personality and Social Psychology*, 75, 82-92.
- Greenberg, J., Arndt, J., Schimel, J., Pyszczynski, T., & Solomon, S. (2001). Clarifying the function of mortality salience-induced worldview defense: Renewed suppression or reduced accessibility of death-related thoughts? *Journal of Experimental Social Psychology*, 37, 70 – 76.
- Greenberg, J., Salomon, S., & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 29), pp. 61 – 139. San Diego, CA: Academic Press.
- Grossman, D. (1995). *On killing: The psychological cost of learning to kill in war and society*. New York, NY: Little, Brown and Co.
- Guimond, S. & Dube-Simard, L. (1983). Relative deprivation theory and the Quebec nationalist movement: The cognition-emotion distinction and the personal-group deprivation issue. *Journal of Personality and Social Psychology*, 44, 526 – 535. doi: 10.1037/0022-3514.44.3.526.

- Hagedorn, J. M. (1999). Gangs and youth subcultures: International explorations. *Contemporary Sociology*, 28 (5), 609-611.
- Hagedorn, J.M. (Ed.). (2007). *Gangs in the global city: Alternatives to traditional criminology*. Chicago: University of Illinois Press.
- Hassan, N. (2001). An arsenal of believers: Talking to the “human bombs.” *The New Yorker*, 77 (36). Retrieved 28 March 2011 from [http://www.bintjbeil.com/articles/en/011119\\_hassan.html](http://www.bintjbeil.com/articles/en/011119_hassan.html)
- Hogg, M.A., Sherman, D.K., Diersekhuis, J., Maitner, A.T., & Moffitt, G. (2007). Uncertainty, entitativity, and group identification. *Journal of Experimental Social Psychology*, 43, 135-142.
- Horgan, J. & Braddock, K. (2010). Rehabilitating the terrorists? Challenges in assessing the effectiveness of de-radicalization programs. *Terrorism and Political Violence*, 22, 267–291.
- Horgan, J. (2005). *The psychology of terrorism*. London: Routledge.
- Horgan, J. (2006). Understanding terrorist motivation: The role of the socio-psychological perspective. In M. Randstorp (Ed.), *Mapping Terrorism Research* (pp. 106-126). London: Routledge.
- Horgan, J. (2008). Deradicalization or disengagement? A process in need of clarity and a counterterrorism initiative in need of evaluation. *Perspectives on Terrorism*, 2 (4), 3–8.
- Horgan, J. 2008). From profiles to pathways and roots to routes: Perspective from psychology on radicalization into terrorism. *The Annals of the American Academy of Political and Social Science*, 618 (80), 80 – 94.
- Horgan, J.( 2003). The search for the terrorist personality. In A. Silke (Ed.) *Terrorists, victims and society*, (pp. 3 – 27). Chichester, UK: Wiley.
- Hudson, R.A. (1999). The sociology and psychology of terrorism: Who becomes a terrorist and why? Federal Research Division, Library of Congress, September, 1999.
- Jamieson, A. (1989). *The heart attacked: Terrorism and conflict in the Italian state*. London: Marian Boyars.
- Janis, I. (1972). *Victims of Groupthink*. Boston: Houghton Mifflin.
- Jefferson, P., & Pryor, F.L. (1999). On the geography of hate. *Economics Letters*, 65 (3), 389-395.

- Jones, E. E., & Davis, K. E. (1965). From acts to dispositions: The attribution process in person perception. In L Berkowitz (Ed.), *Advances in experimental social psychology* (pp. 219 – 267).
- Kahler, M. (1998). Rationality in International Relations. *International Organization*, 52.4: 919-941.
- Kahnemann, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263 – 292.
- Kayaoglu, M. (2008). Terrorism and strain: An exploratory analysis of the impact that individual strain and negative affect have on violent behavior among trained Turkish Hezbollah members. Doctoral dissertation, University of North Texas.
- Krueger, A. B., & Maleckova, J (2003). Education, poverty and terrorism: Is there a causal connection? *The Journal of Economic Perspectives*, 17 (4), 119-144.
- Krueger, A.B. & Laitin, D.D. (2008). Kto Kogo? A cross-country study of the origins and targets of terrorism. in Philip Keefer and Norman Loayza, eds., *Terrorism, economic development, and political openness*. (pp. 148–173). New York: Cambridge University Press, 2008,.
- Krueger, A.B. & Pischke, J.S. (1997) A statistical analysis of crime against foreigners in unified Germany. *Journal of Human Resources*. 32 (1),182-209.
- Kruglanski, A. W., & Fishman, S. (2006). The psychology of terrorism: “Syndrome” versus tool perspectives. *Terrorism and Political Violence*, 18, 193–215.
- Lerner, D. (1958). *The passing of traditional society*. New York, NY. MacMillan Publishing Company.
- Lipset, S. M. (1959). Social stratification and right-wing extremism. *The British Journal of Sociology*, 10(4), 346-382.
- Lyons, H. A. & Harbinson, H. J. (1986). A comparison of political and non-political murderers in Northern Ireland. *Medicine, Science and the Law*, 26, 193 – 197.
- MacFadyen, A.J. & MacFadyen, H.W. (1992). Environmental correlates of mental well-being: a microcomputer, bibliographic information retrieval system. *Canada’s Mental Health*, 40(21), 32.
- MacFadyen, A.J., MacFadyen, H.W. & Prince, N.J. (1996). Economic stress and psychological well-being: An economic psychology framework. *Journal of Economic Psychology*, 17, 291-311.

- Mandel, D.R. (2009). Radicalization: What does it mean? In T.Pick & A. Speckhard (Eds.), *Indigenous terrorism: Understanding and addressing the root causes of radicalization among groups among an immigrant heritage in Europe*. Amsterdam: IOS Press.
- McGregor, I. & Marigold, D. C. (2003). Defensive zeal and the uncertain self: What makes you so sure? *Journal of Personality and Social Psychology*, *85*, 838-852.
- McGregor, I., & Jordan, C. H. (2007). The mask of seal: low implicit self-esteem and defensive extremism after self-threat. *Self and Identity*, *6*, 223 – 237.
- McGregor, I., Haji, R., Nash, K. A., & Teper, R. (2008). Religious zeal and the uncertain self. *Basic and Applied Social Psychology*, *30*, 183-188.
- McGregor, I., Nail, P. R., Marigold, D. C., & Kang, S-J. (2005). Defensive pride and consensus: Strength in imaginary numbers. *Journal of Personality and social Psychology*, *89*, 978 – 996.
- Merari, A., & Friedland, N. (1985). Social psychological aspects of political terrorism. *Applied Social Psychology*, *6* 185 – 205.
- Miguel, E., Satyanath, S. & Sergenti, E. (2004). Economic shocks and civil conflict: An instrumental variables approach. *Journal of Political Economy*, *112* (4), 725-753.
- Milgram, S. (1963). Behavioral study of obedience. *Journal of Abnormal and Social Psychology*, *67* (4), 371-378.
- Miller, L. (2006). The terrorist mind: II. Typologies, psychopathologies, and practical guidelines for investigation. *International Journal of Offender Therapy and Comparative Criminology*, *50*, 255 – 268.
- Moghaddam, F.M. (2005). The staircase to terrorism: A psychological exploration. *American Psychologist*, *60* (2), 161-169.
- Mozaffari, M. (1991). Why the Bazar rebels. *Journal of Peace Research*, *28* (4), 377-391.
- Noricks, D. (2009). “Disengagement and Deradicalization: Processes and Programs”, *Social science for counterterrorism: Putting the pieces together*. Arlington, VA: RAND Corporation.
- Nuttin Jr., J.M. (1987). Affective consequences of mere ownership: The name letter effect in twelve European languages. *European Journal of Social Psychology*, *17* (4), 381 – 402.
- Ochsmann, R., & Mathey, M. (1994). Depreciating of and distancing from foreigners: Effects of morality salience. Unpublished manuscript, Universitat Mainz, Germany.
- Pearce, K. I. (1977). Police negotiations. *Canadian Psychiatric Association Journal*, *22*, 171 – 174.

- Piazza, J. A. (2006). Rooted in poverty? Terrorism, poor economic development, and social cleavages. *Terrorism and Political Violence*, 18, 159-177.
- Portes, A. (1971). On the logic of post-factum explanations: The hypothesis of lower-class frustration as the cause of leftist radicalism. *Social Forces*, 50(1), 26-44.
- Pressman, E. D. (2008). Exploring the sources of radicalization and violent radicalization: some transatlantic perspectives. *Journal of Security Issues* 2 (1), 1 – 23.
- Pressman, E. D. (2009). *Risk assessment decisions for violent political extremism*. Her Majesty the Queen in Right of Canada, 2009. ISBN No.: 978-1-100-13956-2.
- Public International Law and Policy Group (2006). Disarmament, demobilisation and reintegration: Comparative state practice. September 2006, [www.publicinternationallaw.org](http://www.publicinternationallaw.org).
- Pyszczynski, T., Abdollahi, A., Solomon, S., Cohen, F., & Weise, D. (2006). Mortality salience, martyrdom, and military might: The great satan versus the axis of evil. *Personality and Social Psychology Bulletin*, 32 (4), 525 – 537. doi: 10.1177/0146167205282157
- Quinn, D. (1992). *Ishmael: An adventure of the mind and spirit*. New York: Bantam/Turner Books.
- Rasch, W. (1979). Psychological dimensions of political terrorism in the Federal Republic of Germany. *International Journal of Law and Psychiatry*, 2, 79 – 85.
- Ressler, S. (2006). Social Network Analysis as an approach to combat terrorism: Past, present, and future research. *Homeland Security Affairs*, 2 (2), 1 - 10.
- Rickert, E.J. (1998). Authoritarianism and economic threat: Implications for political behaviour. *Political Psychology*, 19, 707-720.
- Riding, R.J. and Cheema, I. (1991). Cognitive styles – an overview and integration. *Educational Psychology*, 11 (3/4), 193 – 215.
- Runciman, W.G. (1966). *Relative Deprivation and Social Justice*. London: Routledge.
- Russell, C.A. & Miller, B.H. (1983). Profile of a terrorist. In L.Z. Freedman and Y. Alexander (eds) *Perspectives on Terrorism* (pp. 45-60). Wilmington, Delaware: Scholarly Resources Inc.
- Sageman, M. (2004). *Understanding terror networks*. Philadelphia: University of Pennsylvania Press.
- Sales, S.M. (1973). Threat as a factor in authoritarianism: An analysis of archival data. *Journal of Personality and Social Psychology*, 28 (1), 44-57.

- Shepard, J. & Greene, R.W. (2003). *Sociology and You*. Ohio: McGraw-Hill.
- Silber, M. (2010). *Radicalization in the west revisited: Confirming the threat*. NYPD Intelligence Division.
- Simon, H. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 69 (1), 99-118.
- Sondrol, P.C. (2009). Totalitarian and Authoritarian Dictators: A comparison of Fidel Castro and Alfredo Stroessner. *Journal of Latin American Studies*, 23, 599-620.
- Starrin, B., Rantakeisu, U., & Hagquist, C. (1997). In the wake of recession - economic hardship, shame and social disintegration. *Scandinavian Journal of Work, Environment and Health*, 4, 47-54.
- Sternberg, R. J., & Grigorenko, E. L. (1997). Are cognitive styles still in style? *American Psychologist*, 52, 700 – 712.
- Strentz, T. (1988). A terrorism psychosocial profile: Past and present. *FBI Law Enforcement Bulletin*, 57, 13 – 19.
- Taylor, M. & Horgan, J. (2006). A conceptual framework for addressing psychological process in the development of the terrorist. *Terrorism and Political Violence*, 18, 585 – 601.
- Taylor, M. (1988). *The terrorist*. London: Brassey's.
- Taylor, M., & Quade, E. (1994). *Terrorist lives*. London: Brassey's.
- Testas, A. (2005). The economic causes of Algeria's political violence. *Terrorism and Political Violence*, 13(3), 127 – 144.
- Triandix, H.C. (2001). Individualism-collectivism and personality. *Journal of Personality*, 69 (6), 907 – 924.
- Van den Bos, K., Poortvliet, P. M., Maas, M., Miedema, J., & Van den Ham, E-J. (2005). An enquiry concerning the principles of cultural norms and values: The impact of uncertainty and mortality salience on reactions to violations and bolstering of cultural worldviews. *Journal of Experimental Social Psychology*, 41, 91-113.
- Van den Bos., K., Van Ameijde, J., & Van Gorp, H. (2006). On the psychology of religion: The role of personal uncertainty in religious worldview defense. *Basic and Applied Social Psychology*, 28, 333-341.
- Victoroff, J. (2005). The mind of the terrorist: A review and critique of psychological attributes. *Journal of Conflict Resolution*, 49, 3-42.

Waters, L.E., & Moore, K.A. (2001). Coping with economic deprivation during unemployment. *Journal of Economic Psychology*, 22, 461-482.

Wright, S.A. (1991). Reconceptualizing cult coercion and withdrawal: A comparative analysis of divorce and apostasy. *Social Forces*, 70 (1), 125-145.

Zimbardo, P.G. (1971). The power and pathology of imprisonment. *Congressional Record* (Serial No. 15, 1971-10-25). Hearings before Subcommittee No. 3 of the Committee on the Judiciary, House of Representatives, Ninety-Second Congress, *First Session on Corrections, Part II, Prisons, Prison Reform and Prisoner's Rights: California*. Washington, DC: US Government Printing Office.

Zimbardo, P.G. and Boyd. J. (2008). *The time paradox: The new psychology of time that will change your life*. New York: Simon & Schuster, inc.

Zuckerman, M. (2007). *Sensation seeking and risky behavior*. Washington, DC: American Psychological Association.

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With the recent global economic downturn there has been concern that economic hardship may expose people to stressors that will act in concert with psychological processes to increase the likelihood of an individual's radicalization. This literature review examines the evidence that has been gathered from empirical studies to understand the relationships between radicalization, psychological processes, and the national economic climate.

Dans la foulée du récent ralentissement économique, d'aucuns s'inquiètent de ce que les difficultés économiques risquent d'exposer les individus à des facteurs de stress qui, conjugués à des processus psychologiques, exacerberont la probabilité de radicalisation. La présente revue de la littérature s'intéresse aux éléments probants qui se sont dégagés des études empiriques et vise à clarifier les liens qui existent entre la radicalisation, les processus psychologiques et le climat économique national.

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