

# **THE KERALA CONUNDRUM:**

EXPLORING THE RELATIONSHIP BETWEEN SOCIAL CHANGE AND HIGH  
SUICIDE RATES IN THE INDIAN STATE OF KERALA

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**Declaration**

This thesis has never been accepted for an award in any other university. To the best of this author's knowledge, the ideas and arguments presented in this thesis have never been previously written or published by any other person, except when due reference is made in the thesis.



Vikas Arya

## Summary

The state of Kerala has a unique history of high social development, rapid social change and high suicide rates. The purpose of this thesis is to explore the effects of rapid social change on suicide rates of Kerala within a broader Indian context—that is, to show how the suicide problem of Kerala reflects the overall suicide problem in India. The association between rapid social change and suicide rates is explored by sensitising Durkheim’s suicide theory in the Indian context. The study utilises a mixed method approach consisting of bivariate analyses and linear regression modelling (quantitative analysis) and in-depth interviews (qualitative analysis). The results highlight that high suicide rates of Kerala and India more generally, are a result of a state of conflict or *anomie* developed through an ongoing clash between the traditional and the modern ways of living. The states with high Hindu populations are found to be susceptible to suicide as historical sanctions towards suicide in Hindu culture continue to have their impact on modern Hindu suicides. Also, more affluent states and states with higher literacy rates tend to have higher suicide rates. For example, south Indian states have higher suicide rates while north Indian states have lower suicide rates. Furthermore, high unemployment rates seem to have a weak impact on suicide rates across India. All these results indicate that the more ‘modernised’ parts of India suffer from higher suicide rates.

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## Chapter 1—Introduction

### Introduction

If Kerala were a country, it would be ranked 8th in the world's suicide rate list (National Crime Records Bureau (NCRB), 2013; World Health Organization (WHO), 2012). The state of Kerala, located in the southwest part of India, maintained the highest suicide rate in India between the years 1984-2007<sup>1</sup> (except 1996). In fact, the suicide rate of Kerala was almost three times the national average in the year 2002 (NCRB, 2002). And while Kerala no longer has the highest suicide rate in the country, it still remains among the top suicide states (NCRB, 2013). However, what makes the case of Kerala curious is its high developmental features. Kerala has the highest literacy, lowest infant mortality and the highest life expectancy rate in India (Census of India, 2011). Also, according to the Institute of Applied Manpower Research (2011) report, Kerala has the highest Human Development Index in India. Consequently, Kerala is regarded as one of the most socially developed states in India (Babu, 2010).

Now, according to Matthew (1989), the high level of social development of Kerala is the result of the state's unique history of rapid social change. However, is it possible that the social change which led to Kerala's development is also associated with high suicide rates in the state? According to Emile Durkheim (1897), high suicide rates were a result of modernising societies going through rapid social change. Hence, the aim of the study is to explore the relationship between high suicide rates and rapid social change in Kerala. However, before exploring this relationship, I shall briefly define suicide as a concept.

According to the WHO (1998), for a death to be classified as suicide, "it must be deliberately initiated and performed by the person concerned in the full knowledge, or expectation of its fatal outcome" (p.75), while an act of suicide that does not result in a death, mostly due to medical intervention, is classified as attempted suicide (Bertolote and Wasserman, 2009).<sup>2</sup>

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<sup>1</sup> Excluding the union territories.

<sup>2</sup> In attempted suicide, the intention of killing oneself must be considered unquestionable. But when the act of suicide neither results in a death nor the *intention* of the fatal outcome is conclusive, it is known as *parasuicide* (Bertolote and Wasserman, 2009). However, the terms *parasuicide* and *attempted suicide* have often been used interchangeably while being subjected to continued debate over their definitions (ibid). Regardless of these debates, this study will focus on 'completed' suicides rather than attempted or *parasuicides* as it attempts to account for high suicide rates of Kerala.

For psychiatrists, suicide is an individual act which generally reflects an individual's state of mental illness such as severe depression (Ronningstam et al., 2009; Pierre, 2015). However, according to Emile Durkheim, the act of suicide can be understood as a social phenomenon reflecting the degree of social integration or social regulation in a society (Makinen, 2009).

Durkheim (1897) was among the first scholars to associate suicide with social causes rather than psychological causes. He argued that suicides can be explained through determining an individual's relationship with her/his surrounding culture and society. He argued that while suicide is an individual act, it is ultimately determined through various social forces. Durkheim (1897) explained suicide as a sociological phenomenon through three major categories namely: egoistic (lack of social integration), altruistic (excessive social integration) and anomic (lack of social regulation) suicides.<sup>3</sup> Out of these three suicide categories, this thesis shall argue that it is the *anomic* suicide category, which Durkheim (1897) associated with modernising societies going through rapid social change, best suited to explain high suicide rates of Kerala (and India more generally).

This is not the first study to associate high suicide rates of Kerala with rapid social change. Various studies have established myriad reasons for high suicide rates related with rapid social change in Kerala including increasing divorce rates and alcoholism (John, 2000), increasing modernisation resulting in disintegration of traditional social systems (Babu, 2010), growing unemployment and underemployment (Halliburton, 1998), increasing domestic violence (Mitra and Singh, 2007) and high individualisation (Kumar, 1995). However, none of the studies have explained suicide rates of Kerala using Durkheim's concept of anomie. Moreover, none of these studies have looked at the relationship between rapid social change and high suicide rates of Kerala within a broader Indian context i.e. how the suicide problem of Kerala reflects the overall suicide problem in India. As suggested by Vijayakumar (2007), "the effects of modernisation, specifically in India, have led to sweeping changes in the socioeconomic, sociophilosophical and cultural arenas of people's lives, which have greatly added to the stress in life". Hence, problems related to social change are not exclusive to the state of Kerala.

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<sup>3</sup> There is a fourth category named fatalistic suicide which results from excessive social regulation. However, it did hold much relevance in explaining 19<sup>th</sup> century European suicides and was only mentioned as a footnote by Durkheim (2006{1897}), "for the sake of completeness" (p.305) of his argument.



Despite these social changes, most of the suicide studies conducted in India are based on verbal autopsies (Vijayakumar, 2007; Rane and Nadkarni, 2014).<sup>4</sup> While researchers have mentioned a possible relationship between growing modernisation, social change and high suicide rates of India (Vijayakumar, 2004, 2007), they have rarely empirically explored any such relationship especially within the field of sociology. Consequently the effects of modernisation, especially on the religious values, on the gender roles of women and the effects of economic liberalisation<sup>5</sup> are rarely discussed in India including Kerala. These three specific social aspects can help explain effects of the process of modernisation in the crucial arenas of religion, gender and the economy. Furthermore, these three aspects are capable of capturing most of the social mechanisms that produce change in India. More importantly, religion, gender and economy are three of the most researched areas among suicide researchers (Durkheim, 1897; Stack, 2000; Mayer, 2011; Wray et al., 2011). Hence, this study aims to quantify and explore these central yet under-researched social aspects of suicide. To this end, I will be using a mixed methods design as the research methodology for this study.

This study comprises two methodological components: bivariate analysis and linear regression modelling (BALRM) (quantitative analysis) and in-depth interviews (qualitative analysis). The aim of BALRM is to quantify associations between various social indicators and suicide rates of India at the state level. BALRM will statistically explore the relationship between suicide rates across India and various social factors which represent the process of modernisation and social change. The aim of the in-depth interviews, however, is to gather detailed information about participants' thoughts and perceptions on social factors affecting suicide rates in Kerala and India, primarily concentrating on social factors which indicate a positive impact on suicide rates across India in BALRM. A total of six participants are chosen (three Indian and three Kerala suicide experts) for in-depth interviews. These participants are chosen for their professional and academic experience in the field of suicide and suicide prevention in Kerala and India.

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<sup>4</sup> Verbal autopsy is a method used to determine the cause of death especially in countries where there is under-reported, incomplete or no formal registration of deaths (Soleman et al., 2006). It usually consists of collecting information from deceased people's family and friends to determine the cause and circumstances of death (Joseph et al., 2003, Soleman et al., 2006).

<sup>5</sup> The discussions around effects of economic liberalisation on suicide rates in India are mostly limited to farmer suicides.

This introductory chapter is divided into four brief sections. The first section defines the three main categories of Durkheim's suicide theory; the second section describes the state of suicide in contemporary India, the extent of sociological research on suicide in India and Raewyn Connell's, *Southern Theory*; the third section provides an overview of the state of Kerala; and the fourth section outlines the structure of the thesis.

### **Durkheim's suicide theory**

Durkheim's suicide theory is essential to this study. First, I shall draw upon the concept of altruistic suicides while discussing medieval forms of Hindu suicides and their continuing relevance on modern Hindu suicides. More importantly, I shall also draw upon the concept of anomic suicides while explaining contemporary Indian suicides. But before using them in the analysis, it is necessary to understand what these concepts are.

In his seminal work, *Suicide* (1897), Durkheim explained suicide as a social phenomenon by developing three types, namely: egoistic, altruistic and anomic suicide based on the principles of integration and regulation in societies.

The first type of suicide called 'egoistic suicide' involves disconnection of an individual from the society that results from "excessive individualism" (Durkheim 2006{1897}, p. 225) causing a state of depression and moral confusion. The second type 'altruistic suicide' is almost the opposite of egoistic suicide and involves "excessive integration" or "insufficient individuation" where an individual commits suicide usually to serve a "higher purpose" (ibid, p. 242). The final type is called 'anomic suicide', resulting from disturbances in social regulation or failed integration.

Durkheim's suicide theory was essentially about the significant impact of social structures on suicide rates of societies. He associated suicides in modern societies with egoistic trends (increasing individualism in modernising societies) and anomic trends (diminishing social regulation in modernising societies). Durkheim (2006{1897}) stated that: "any disturbance, even when it results in greater wealth and an increase in general vitality, drives some to suicide" (p.267). He also stated: "if one observes suicide rates over a longer period of time, they show that the constitutional characteristics of the society have undergone profound changes" (ibid, p.22). Hence, the impact of social change on suicide rates of modern societies was one of the central arguments of Durkheim's suicide theory.

Durkheim's argument about social change and increased suicide rates of societies has been empirically supported by subsequent studies (Makinen, 2009).<sup>6</sup> However, Durkheim's suicide theory has rarely been discussed in Kerala or India (Ponnudurai, 2015).<sup>7</sup> This can be due to two primary reasons—an overall lack of suicide research in India, especially sociological research (Thakur, 1963; Vijayakumar, 2007; Mayer, 2011) and doubts surrounding the application of Durkheim's suicide theory to India (Sohn, 2013). But to discuss these issues further, we must understand the problem of suicide in the Indian context.

### **High suicide rates of India**

India has high suicide rates (Swanhuyser, 2016). According to the WHO (2014) report on suicide prevention, India had the highest number of estimated suicides (258,015) in the world in 2012. Also, according to NCRB (2013) statistics, more than 100,000 people committed suicide in 2013 taking the national suicide rate up to 11 per 100,000 population. And, as shown in Figure 1.1, suicide rates of India remain steadily high (refer to Appendix 1 for a yearly overview of suicide trends in India, 1967-2013). Worst yet, there is conspicuous evidence suggesting the gross under-reporting of suicides in India where “only a quarter of all deaths are registered, and only one in ten deaths is medically certified” (Bhat 1991; Ruzicka 1998, cited in Staples, 2012, p. 4).<sup>8</sup> Furthermore, in popular media, India has been referred to as the suicide capital of South-East Asia (Ramachandran, 2014), whereas the southern part of India has been referred to as the “world's suicide capital” (BBC, 2004; Iype, 2004).

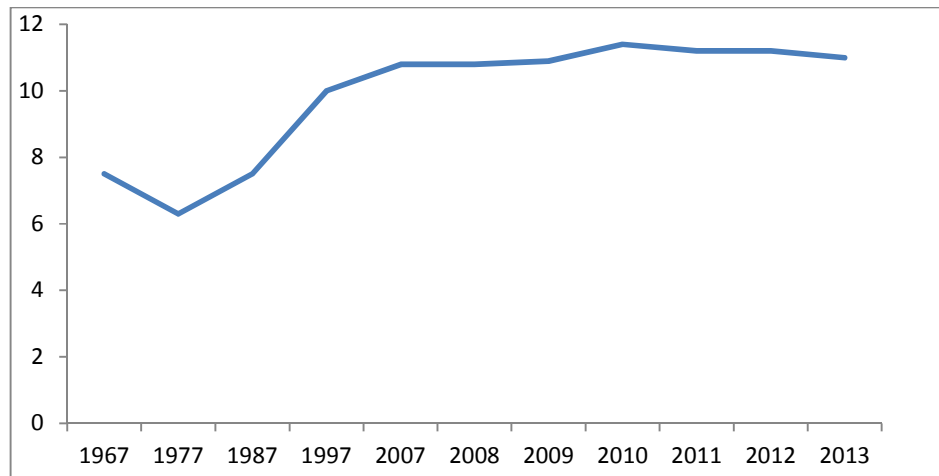
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<sup>6</sup> It should be noted here that Durkheim's suicide theory has been challenged in the past in a number of areas. For example, Jaworski (1999) critiques Durkheim's reasoning for lower female suicide rates based on their intellectual inferiority to males. Halbwachs (1978, cited in Mayer, 2011) criticised Durkheim for overemphasising the religious significance of suicides while ignoring the disparity between urban and rural suicide rates. Gibbs and Martin (1965, cited in Mayer, 2011) criticised Durkheim for not defining the concept of integration while arguing that integration is not measurable by statistical means. Whitney Pope (1976) also criticised Durkheim for not defining the concepts of integration and regulation and argued that there was a lack of distinction between the two concepts in Durkheim's suicide theory.

<sup>7</sup> One such study was conducted by Mohanty (2013), where Durkheim's suicide theory was discussed in relation to farmer suicides in India. Mohanty (2013) argued that modern Indian farmer suicides can be described as egoistic (individualisation of agriculture and isolation from family) and anomic (disappointment from the increasing gap between aspirations and achievements in a neo-liberal market) suicides.

<sup>8</sup> Birth and death registrations are low in India i.e. they are under-reported (Dhar, 2013).

**Figure 1.1: Indian suicide rates—1967-2013 (per 100,000 population)**



**Source—NCRB (1967-2013)**

Unfortunately, despite the “enormity of the problem” (Vijayakumar, 2007), there is a dearth of suicide research in India (ibid). This is especially true for the field of sociology in India (Mayer, 2011). The issue of suicide is predominantly discussed in the field of psychology and medicine in India (Staples, 2012). This is because of the fact that suicide is generally acknowledged as a psychological phenomenon (Lonnqvist, 2009). As suggested by Lonnqvist (2009), “suicidal behaviour is closely connected with mental disorders” (p.275). And according to studies mostly based on psychological autopsies, most suicide victims in western countries have some diagnosable mental disorder (Vijayakumar, 2007; Hawton and Heeringen, 2009; Rutz and Rihmer, 2009; Shuiyuan, 2009; Stanley and Jones, 2009). However, Hjelmeland et al. (2012) argue that retrospective psychological autopsy is not a valid tool to assess the motives behind suicide.<sup>9</sup> Moreover, many studies from western countries also suggest that suicide is essentially a social problem (Durkheim, 1897; Hassan, 1996; Stack 2000).<sup>10</sup>

In India also, there is evidence that suggests that social issues are important in explaining suicide rates. For example, NCRB statistics indicate that depression is not a major

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<sup>9</sup> As stated by Hjelmeland et al. (2012): “psychological autopsies (PA) studies are methodologically flawed. It is simply impossible to assign a reliable diagnosis of mental disorder to someone by interviewing someone else. PA studies can therefore not serve as an evidence base for the claim that most people who die by suicide are mentally ill” (p.621).

<sup>10</sup> As stated by Hassan (1996), “the weight of existing evidence indicated that besides the psychological causes, social factors play a central role in its [suicide] causes and distribution” (p.2).

reason for committing suicide in India (Vijayakumar, 2007; Rane and Nadkarni, 2014). And while there are studies suggesting the under-reporting of mental illnesses due to the social stigma attached to mental health issues in India (Bhola and Kapur 2003, cited in Lakhan and Ekundayo 2015; Radhakrishnan and Andrade, 2012), mental illnesses might themselves be manifestations of bigger social problems.<sup>11 12</sup> As aptly stated by Retterstol and Ekeberg (2009), “suicidal behaviour is complicated and not only based on psychiatric problems. The individual suffering consists of mental sufferings in relation to self-conflicts, interpersonal or social problems” (p.61).

Furthermore, Vijayakumar (2007) states that “although suicide is a deeply personal and an individual act, suicidal behaviour is determined by a number of individual and social factors”. Moreover, Staples (2012) suggests that limiting the analysis of suicide to a specific field of psychology or epidemiology produces “overly reductive” explanations of a problem which is “a more complex social phenomenon” (p.10).

However, it would be hasty to conclude that suicide has never been discussed in Indian sociology or that other fields discussing suicide completely subvert the importance of social factors. For example, Mitra and Singh (2007) discuss high suicide rates of Kerala by drawing attention to social, cultural and demographic changes. Also, Vijayakumar (2007), while discussing suicide as a psychological phenomenon, acknowledges that suicide is as much a social problem as it is a psychological one in India. But to what extent is suicide a social problem in India?

### ***The extent of sociological research on suicide in India***

In order to investigate how suicides are discussed among Indian academics, I searched for ‘suicide’ (a keyword search) in the archives of three prominent Indian academic journals namely: *Contributions to Indian Sociology (CIS)*, *Indian Journal of Psychiatry (IJP)* and *Economic & Political Weekly (EPW)*. The *CIS* journal yielded 76 results after searching for

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<sup>11</sup> Take, for example, the issue of increasing suicides among young females in India. Suicide is now the leading cause of death among young females in India (Clark, 2013). The depression arising among young women leading to suicide might be a result of social causes related to the ongoing clash between changing gender roles of women and the traditional patriarchal society of India (Mukunth, 2014).

<sup>12</sup> It should be mentioned here that the point about social causes of psychological distress can also be made about ‘the west’ (Durkheim, 1897; Mirowsky and Ross, 2003). As stated by Mirowsky and Ross (2003): “patterns of psychological distress tell us about the quality of life in various social positions” (p.129).

suicide as the keyword. Out of the 76 results, only three articles directly dealt with the problem of suicide in India (Parry, 2012; Munster, 2012; Staples, 2012). All of these articles were from the same volume (no.46) which specifically looked at the topic of suicide in South Asia. Other articles from the same volume dealt with suicide in Sri Lanka (Marecek and Senadheera, 2012; Alwis, 2012; Widger, 2012) and a comparison between South Asian and South African suicides (Niehaus, 2012). There were also some book reviews in the same volume dealing with the problem of suicide (directly or indirectly) in India. However, barring volume 46, there were no articles found in the *CIS* which directly dealt with the issue of suicide in India.

There were some articles in the *CIS*, however, which talked about suicide as a peripheral issue in discussing: agrarian issues (Munster and Strumpell, 2012), rape issues (Baxi, 2010), dowry issues (Ifeka, 1989), religious beliefs (Orenstein, 1970; Parry, 1981), education (Jeffery, Jeffery and Jeffery, 2005), the caste system (Wagle, 2000), judicial issues (Berti, 2010) and neo-liberal development (Costa, 2007). Other articles were either book reviews (again, most of these books dealt with suicide as a peripheral issue) or about suicides in other South Asian countries (mostly Sri Lanka). The remaining articles mentioned suicide in passing with no investigative motive aimed at the issue. Given that *CIS* is one of the most prominent sociological journals in India with the website archives dating back to 1967, the number of dedicated suicide studies is limited. A search of *EPW* on the other hand, yielded 161 suicide search results.

One reason for this might be the fact that *EPW* comes out on a weekly basis, as opposed to *CIS* which comes out only three times a year. Furthermore, *EPW* also contains short columns, letters, editorials and comment pieces while *CIS* only has peer-reviewed articles. Looking at *EPW* search results, the debate about suicide was largely restricted to the issue of farmer suicides (for example, Vaidyanathan, 2006; Jeromi, 2007; Padhi, 2009; Verma, 2011; Mohanty, 2013). The other category that attracts the attention in the *EPW* is suicide among students (especially lower caste students) in universities (for example, Kanitkar, 2004; Basu and Tandon, 2016; Teltumbde, 2016). Both these topics are also popularly debated in Indian media and widely discussed in the political arena as well.

In contrast to *CIS* and *EPW*, however, the search of *IJP* yielded 326 results for suicide. Out of these 326 results, almost 50 articles dealt directly with the issue of suicide in India (for example, Vijayakumar, 2007; Soman et al., 2009; Vijayakumar, 2010; Radhakrishnan and

Andrade, 2012; Srivastava, 2013). The remainder discussed the relationship between suicide and topics such as: depression (Jain et.al, 1999), schizophrenia (Raj and Singh, 2006), marriage and mental illness (Srivastava, 2013), women (Watve and Raju, 2015), rape (Jiloha, 2013) among others.

Based on the comparison between the three journals mentioned above, it seems that while suicide is a debated subject among sociologists and political scientists in India, it is either mostly discussed as a secondary issue or it is largely discussed within the field of psychology. However, Vijayakumar (2010) highlights the paucity of suicide research *even within* her field of psychiatry, demonstrating the overall lack of suicide research.

The paucity of suicide research is not unique to India. In fact, the global South (nations mostly outside North America and Western Europe) in general suffers from a scarcity of suicide research. The main reasons for this scarcity include lack of suicide data altogether or the dubious quality of the available data and the stigma attached to suicide (Vijayakumar et al., (1), 2005; Apter et al., 2009)<sup>13</sup>. The global North (mostly North America and Western Europe), however, especially in comparison to the global South, has vast amounts of suicide data and research (ibid). Interestingly, a few studies conducted in the global South reveal significant variance in the suicide patterns between the global North and the global South (Apter et al., 2009). For example, female suicide rates are higher in the global South as compared to the global North because of the extent of patriarchal norms and gender inequality in the global South (Canetto, 2009; Mayer, 2011). As Vijayakumar (2004) notes: “there are marked differences in suicidal behaviour between developed and developing countries”.

### ***Developing an Indian perspective on Durkheim: Applying some insights from Southern Theory***

In order to account for the difference between the suicide patterns of developing and developed countries, this study has drawn inspiration from Raewyn Connell’s (2007)—‘Southern Theory’ arguments. In the text, *Southern Theory*, Connell argues that the knowledge generated in the global South can be different to that of the global North, mostly due to the colonial histories and different socio-economic and socio-cultural conditions of the global South. For example, Gillen and Ghosh (2007) highlight that during colonial times,

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<sup>13</sup> The stigma usually results in suicides *not* being officially reported as suicides but something else.

women were “doubly colonised” (p.179) with both patriarchy and colonialism. Furthermore, the authors point out that Indian anti-colonialists (mostly men), situated women further in the domestic sphere in a bid to re-instate the ‘traditional norms’,<sup>14</sup> a sentiment which still holds relevance in contemporary India (ibid).<sup>15</sup> Interestingly, female suicide rates in India are much higher than in the global North (Vijayakumar 2007; Mayer, 2011), which might be associated with the colonial past and patriarchal present. Hence, Connell (2007) highlights the importance of drawing comparisons between the global South and the global North in order to reveal new knowledge instead of simply ‘fitting’ the theories of the global North in the global South context. As Connell (2007) states: “work needs to be done to develop the connections, as well as the contrasts, between these (southern) bodies of thought and those of the metropole” (p.xii). Hence, this study intends to explore how well Durkheim’s suicide theory accounts for suicide patterns in India.

But it would be hasty to label Durkheim’s suicide theory as completely ‘northern’ because this theory has been shown to be applicable in some ‘southern’ contexts (for example, Kearney and Miller, 1985; Phillips et al., 1999; Stuckler and Basu, 2013).<sup>16</sup> However, some studies conducted in the global South have also found contrary evidence to Durkheim’s theory. For example, Yip et al. (2005) found an inverse relationship between urban life and suicide rates in China. Indeed, many suicide studies conducted in the global North have also shown inconsistent findings with Durkheim’s suicide theory (Makinen, 2009; Shuiyuan, 2009).

These inconsistencies highlight the fact that suicidal behavior is complicated and does not always follow a specific theory or pattern. And while Durkheim’s suicide theory still remains vital in understanding the social causations of suicide (Makinen, 2009), his

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<sup>14</sup> In fact, post-colonial societies generally struggle from a ‘confused’ state of nationalism where on one hand, they are progressing on the European Enlightenment ideals (such as equality, liberty etc.) but on the other hand, they critique such ideals for being responsible for the destruction of native customs (Gillen and Ghosh, 2007). Gillen and Ghosh (2007) refer to this as “the tenacious hold of the colonial past on the post-colonial present” (p.217).

<sup>15</sup> Neither the Indian nationalists nor the colonial elites had any ambitions of promoting women’s agency in the society. They simply had their own versions of ‘how a woman is ought to be’!

<sup>16</sup> Kearney and Miller (1985) associated high suicide rates of Sri Lanka with rapid social change in the country including increasing literacy and increasing unemployment. Phillips et al. (1999) associated high suicide rates of China with rapid social change in the country resulting from the ongoing process of modernisation. Stuckler and Basu (2013) associated high suicide rates of some of the post-Soviet countries with rapid social change resulting from the dissolution of Soviet Union.



theoretical concepts should be sensitised to the local and cultural context of specific regions. Hence, this study will be 'southern' in the sense that it will not try to uncritically apply Durkheim's suicide theory in the Indian context but rather develop an Indian perspective on Durkheim's concepts. And while this Indian perspective might involve only partial acceptance of Durkheim's suicide theory, it will ultimately help us with the understanding of suicide as a social problem in India. Hence, the next chapter will specifically concentrate on the comparisons between Indian suicide patterns with the global North. But for now, let us briefly look at Kerala's history of social change and why Durkheim's suicide theory might be relevant in Kerala's context.

### **Kerala: The successes and the struggles**

Kerala, "God's own country", as it is famously referred to, is a state in south India located between the Lakshadweep Sea and the Western Ghats. Kerala is splendid, from its stunning beauty to its prodigious history of development. Along with its climatic beauty, the state is renowned for having the highest literacy rate, highest Human Development Index and lowest infant mortality rate in India (Census of India, 2011; IAMR, 2011). However, Kerala also struggles with issues such as high suicide rates, high unemployment rates and increasing alcoholism (Pat, 2005).

Kerala developed rapidly (Mathew, 1989). This rapid social development can be ascribed to the state's unique historical struggle for power, which kept shifting back and forth between Hindus—Nairs (higher class), Ezhavas (lower caste) and Christians. This struggle was mostly carried out on the grounds of religion, caste, land ownership, education and political participation (Mathew, 1989). This was largely due to the fact that 'development' became the only means to gain any sort of political power in Kerala. As aptly stated by Mathew (1989) in this short passage:

The secular forces stood behind the communities in this competition [gaining political power] and their goal was enhancement of secular institutions because status and power shifted from ascriptive religious categories to secular categories of achievement and rationality (p.198).

The struggle among various communities to gain economic and political power was fundamental to the rapid development of Kerala (Mathew, 1998). Furthermore, Kerala has always been the most religiously heterogeneous state in India. Kerala still maintains the most equal distribution of the three major religions (Hinduism, Islam and Christianity) compared to other states in India.<sup>17</sup> This religious heterogeneity added to the political struggle as no community had a majority.<sup>18</sup>

Another aspect of the history of Kerala is the presence of communist governments.<sup>19</sup> In 1957, Kerala became the first state in India to democratically elect a communist government (Nossiter, 1982). The Communist Party of India (CPI) later broke into two, forming into the CPI and the Communist Party of India Marxist (CPM). However, both the parties, whenever elected in Kerala, heavily invested in education, health, land reform policies and women's agency (Nabae, 2003). In fact, Kerala is also the only state in India with a greater female share of the population than male.<sup>20</sup>

While Kerala developed quickly in the education and health sectors, the state perpetually suffered from low economic growth (Mathew, 1989). Mathew (1989) noted that at the close of the 19th century, economic activity in Travancore (which formed a big part of the state of Kerala later) as a whole, "was not dynamic enough to generate surpluses or mobility, it was generally static" (p.21). And according to Balakrishnan (2015), Kerala's economy is still weak mostly due to the inability to generate economic activity within the state. Related to this poor economic performance, Kerala has high unemployment rates. In fact, according to the Economic Survey of India (2012-2013), Kerala had the highest unemployment rate in India. Worst yet, many of the unemployed individuals in Kerala have graduate level education (Pat, 2005). Furthermore, Kerala suffers from the problem of

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<sup>17</sup> Kerala consists of roughly 54% Hindus, 27% Muslims and 19% of Christians, constituting the most plural society (statistically) in India (Census of India, 2011).

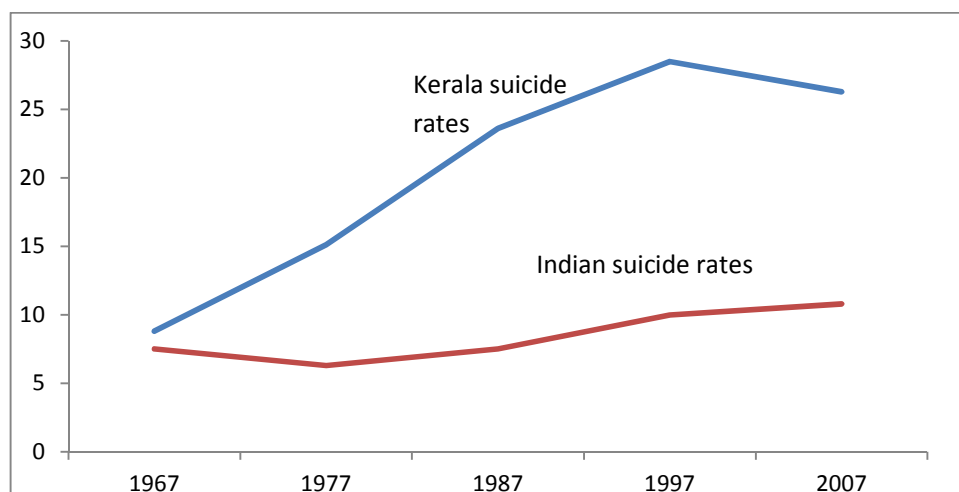
<sup>18</sup> Hindus had a slight majority but were divided among themselves on the basis of different castes.

<sup>19</sup> The states of West Bengal and Tripura also have a history of communist governments but Kerala was the first state to have a communist government in India.

<sup>20</sup> Puducherry is the only other place where women exceed males in India but it is a union territory, not a state. Also, Kerala has the highest sex ratio in India with 1084 females per 1000 males while Puducherry has 1001 females per 1000 males (Census of India, 2011). Ironically, both regions record highest suicide rates in India as well.

alcoholism and is known as the “booziest state” of India (Krishnan, 2014).<sup>21</sup> Finally, Kerala has constantly featured among the top suicide states in India (NCRB, 1967-2013). As shown in Figure 1.2, Kerala’s suicide rates are much higher than overall suicide rates of India.

**Figure 1.2: Kerala suicide rates vs Indian suicide rates—1967-2007 (per 100,000 population)**



**Source—NCRB (1967-2007)**

The historical struggle for power contributed towards the acceleration of rationality, individualisation and secularisation in Kerala leading to the modernisation of the state (Mathew, 1989). Now, the high suicide rates of Kerala might be compared to the modernising context of 19<sup>th</sup> century Europe. Scholars such as Masaryk (1881), Morselli (1881) and Durkheim (1897) found that high suicide rates of Europe were a result of rapid social change among growing modernisation in the European societies (Makinen, 2009; Mayer, 2011). Consequently, this study explores the effects of rapid social change on suicide rates of Kerala. Hence, the main research question of this thesis focuses on whether rapid social change is having an impact on suicide rates of Kerala, and India more generally.

### **Structure of the thesis**

This thesis is divided into six chapters. This first chapter provides background and context to the problem of suicide in Kerala and India. Chapter Two reviews the Indian suicide literature

<sup>21</sup> Quite often, Kerala government has been criticised for regulating alcohol sales only through Kerala State Beverages Corporation (KSBC) because of the revenue it generates for the state (Panickar, 2015). For example, in 2010, KSBC made \$1.2 billion from alcohol sales (Biswas, 2010, cited in Panickar, 2015). However, under constant criticisms, the government of Kerala finally introduced the Alcohol Prohibition Act in 2014. While it still going through phases of completion, it will ultimately limit the alcohol sale to five star hotels only.

while drawing comparisons between the suicide patterns of India and the global North. The main purpose of the chapter is to identify various social factors (related to the three specific social issues of economic liberalisation, changing gender roles of women and religious values as well as the process of modernisation in general) that might have an impact on suicide rates of India. The identified social factors will then be tested against state-wise suicide rates across India through bivariate analysis and linear regression modelling (BALRM). Chapter Three describes the rationale for choosing a mixed method design for the study. Furthermore, it outlines how the two research methods (BALRM and in-depth interviews) are applied in the study. Chapter Four conducts BALRM to explore statistical relationship between suicide rates and various social variables identified from Chapter Two. Chapter Five develops the qualitative fieldwork of the study which consists of in-depth interviews with six suicide experts. The chapter explores the results from BALRM as well as participants' understanding of suicide as a social problem to draw conclusions about high suicide rates in Kerala and India. Chapter Six summarises major findings of the thesis and considers new avenues for further research on the topic.

## **Chapter 2—Suicide in India**

### **Introduction**

As mentioned in the last chapter, this study will investigate the suicide problem of Kerala within the broader Indian context by sensitising Durkheim's suicide theory in the Indian context. Consequently, in this chapter, Indian suicide patterns will be compared with the suicide patterns of the global North using Durkheim's suicide theory. But the particular focus of this chapter will be the effects of modernisation in three specific social areas, namely: the economy (i.e. economic liberalisation), changing gender roles of women, and religious values.<sup>22</sup> The social factors identified in this chapter will later be used to statistically explore their relationship to suicide rates across India through bivariate analysis and linear regression modelling (BALRM) in Chapter 4. Furthermore, the statistically significant social factors will inform the in-depth interviews in Chapter 5. The following three reasons render in-depth interviews pertinent to this study. The first is to investigate the impact of social factors that are not possible to quantify statistically such as changing gender roles of women and the overall impact of economic liberalisation on the Indian society. The second is to further validate (or find contrary evidence) the results of bivariate analysis and linear regression modelling. The third is to explore any other social factors that might be pertinent in explaining the suicide rates of Kerala and India. Since India has a long history of religious suicides (Ponnudurai, 2015), I shall start this chapter by briefly contextualising the medieval forms of suicide related to Hinduism in India.

### **Medieval forms of suicide in India**

In the Hindu history, religious suicides were often 'allowed' and glorified while general suicides were condemned (Thakur, 1963). As suggested by Thakur (1963), "suicides on religious grounds were permitted, suicides in general were universally denounced and reprobated" (pp.58-59). The sanctions for committing religious suicides included atoning for past sins, suffering from terminal illness and old age among others. Hence, in the Hindu literature, the attitude towards religious suicides remains somewhat tolerated or even approving (Thakur, 1963). This tolerance, however, contrasts with other prominent religions in India such as Islam and Christianity which usually condemn suicide as an act against God's will (Mayer, 2011).

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<sup>22</sup> Psychological issues and substance abuse, which have been associated with Indian suicide rates in the past (see Khan et al., 2005) are not discussed in this chapter.

While religious suicides were prominent in medieval India, two specific forms of suicides are often cited in the Indian literature: *Sati* and *Jauhar* (Thakur, 1963). *Sati* was the practice where women would ‘voluntarily’ immolate themselves on their husband’s death pyre (Vijayakumar, 2004). *Jauhar* was the practice where women self-immolated themselves (usually in large numbers) when their husbands faced imminent defeat in a war (Thakur, 1963). While both *Sati* and *Jauhar* have long been considered obsolete in India, rare cases of *Sati* are still documented in modern times (Vijayakumar, 2004). However, what can be discerned from both these suicide forms is the social status of women in medieval India. Essentially what *Sati* and *Jauhar* meant was: if your husband is dead, you have no reason to live either! Durkheim (1897) referred to these forms of suicides in India as altruistic suicides.

According to Durkheim (2006{1897}), altruistic suicides were a result of “excessive integration” or “insufficient individuation” where an individual commits suicide usually to serve a “higher purpose” (p.225) —for example, sacrificing one’s life to make the Gods happy. Following Durkheim, in the Indian literature *Sati* and *Jauhar* are referred to as altruistic suicides. However, these suicides also relate to another suicide category developed by Durkheim called fatalistic suicide. Durkheim (2006{1897}) argues that fatalistic suicides were the result of “violent oppressive discipline” (p.305), where individuals were forced to commit suicide in accord with harsh social regulations. And there are examples in the Indian history where women were *forced* to commit *Sati* (Vijayakumar, 2004).<sup>23</sup> Hence, while Durkheim only mentioned fatalistic suicide category as a footnote, this category seems relevant for these so-called ‘altruistic’ suicides of women in medieval India.

While religious suicides in medieval India were prominent, due to the lack of statistical data, it is impossible to comment on suicide rates of medieval Indian societies. However, based on the NCRB suicide statistics (available since 1967), it can be stated that suicide has become a serious issue in contemporary India (Vijayakumar, 2007; Mayer, 2011;

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<sup>23</sup> However, there are also instances in the history where women *willingly* committed *Sati* (Vijayakumar, 2004). In fact, Thakur (1963) claims that *Sati* was not always forcefully imposed by Hindu priests or men in ancient India as some of the western scholars have suggested. Also, according to Thakur (1963), western scholars failed to recognise the spiritual sacrifice of *Sati* which reflected an unconditional and pure love of Indian women for their partners as well as their valour. Furthermore, Gillen and Ghosh (2007) suggest that colonial bureaucrats established *Sati* as a barbarous act, as a part of crushing the native customs and justifying their colonial agendas.

Swanhuyser, 2016). Worst yet, the actual suicide rates might be much higher as the Indian suicide statistics are usually blamed from being incorrect and under reported (Mayer, 2011).

### **Underreporting of suicides in India**

The reliability of suicide statistics in India remains dubious.<sup>24</sup> For example, Patel et al.'s (2012) study estimated a difference of 52,400 suicide deaths between the official NCRB statistics and their research findings. Kumar (2004) suggests that suicides in India are usually non-reported, under-reported or misclassified. Sauvaget et al. (2009) propose that this is because suicides in India have legal, social and economic consequences.

The two reasons most often cited for under-reporting of suicides in India include the legal reasons (attempted suicide is illegal in India) and social reasons (the stigma attached to suicide in India forces individuals not to report suicides) (Vijayakumar, 2009; Radhakrishnan and Andrade, 2012).

The Introduction noted that the reasons for lack of suicide research in the global South include complete lack or dubious quality of the available suicide data and social stigma. Both these reasons apply to the Indian context as well. Fortunately, unlike many countries in the global South (for example, Indonesia and Pakistan), India has official data on suicides. Moreover, under-reporting of suicides has little impact on the social variables that might help explain suicide rates (Pescosolido and Mendelsohn, 1986). Hence, despite their suspect nature, I shall use NCRB statistics for this study.

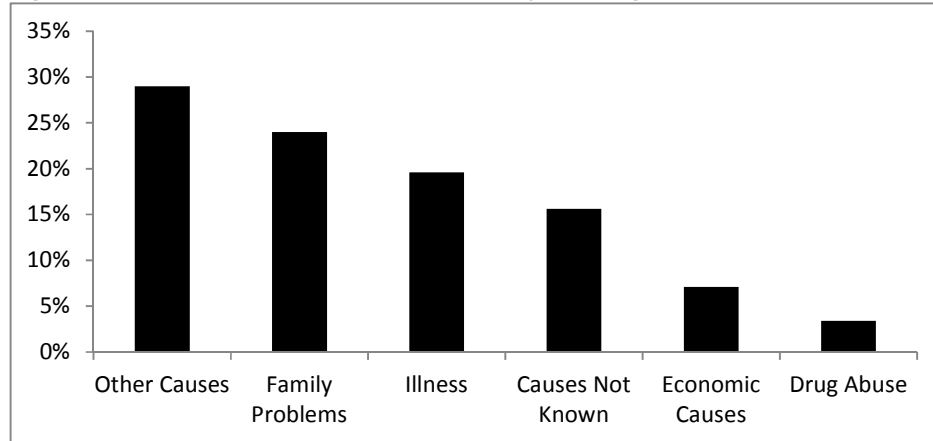
### **Causes for committing suicide in India and Durkheim's suicide theory**

What are the factors that have an impact on suicide rates of India? Figure 2.1 outlines the causes of suicide in India for 2013. Excluding the categories, "Other Causes" and "Causes Not Known", which usually form more than 40% of the total suicide causes, the largest categories include, "Family Problems" and "Illness" (NCRB, 2013). These two categories account for almost 20% each of total suicides. Other prominent suicide causes are, "Economic Causes" and "Drug Abuse" making up for 7.1% and 3.4% out of the total suicide causes respectively (ibid).

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<sup>24</sup> The question about the reliability of suicide data is not just limited to India but remains a worldwide problem (see Tollefsen et al., 2012).

**Figure 2.1: Causes of suicides in India—2013, percentage of total suicides**



**Source—NCRB (2013)**

Now, this study is interested in investigating the sociological reasons behind suicides. However, social factors, such as religion or gender roles of women, are not included in the NCRB data. Hence, I shall identify social factors affecting suicide rates through individual studies and suicide literature while utilising Durkheim's suicide theory.

As mentioned earlier, Durkheim (1897) established three major causes for suicide namely: egoism, altruism and anomie to explain collective suicide rates of societies. As described by Durkheim (2006{1897}) in this short passage:

Egoistical suicide derives from the fact that men no longer see any sense in living; altruistic suicide from the fact that this sense appears to them to be situated beyond life itself; and the third kind of suicide [anomic suicide], from their activity being disrupted and from their suffering as a result (p.283).

Durkheim related these three major reasons of suicide to various social causes such as excessive religious beliefs, diminishing religious beliefs, rising literacy, increasing urbanisation and increasing individualisation among others. Many studies conducted in the global North since Durkheim have agreed with his analyses for example, marriage acting as a protective factor against suicide (Stack, (II), 2000; Wray et al., 2011). However, there has been some disagreement over these Durkheimian analyses, especially as they apply in the global South (Vijayakumar, 2007; Mayer, 2011). For example, marriage is *not* considered as



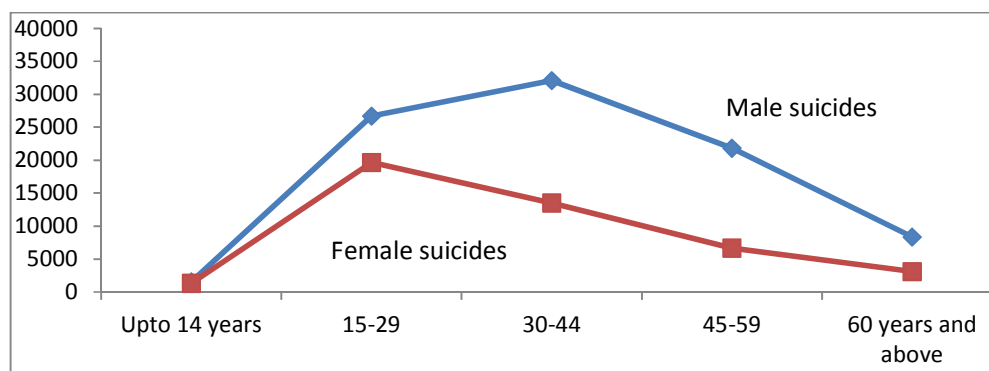
a protective factor against suicide in the global South (Vijayakumar et al., (2), 2005; Mayer, 2011). However, before looking further into the differences in suicide causes, I shall highlight the differences between various age groups and suicide between the global North and India.

### Suicide and the life course

Durkheim noticed an increase in suicide rates by age. Durkheim (2006{1897}) stated: “not only is suicide very rare in childhood, but it is only with old age that it reaches its highest point and, between these two extremes, it rises steadily for age to age” (p.89). According to him, suicide risk increases with age because, “repeated experiments are needed to make him [the individual] feel the full emptiness of an egotistical existence or the utter vanity of boundless ambition” (ibid, p.361). Many studies conducted since Durkheim in the global North have supported this pattern (Stack, (II), 2000). Some reasons for this pattern in the global North include: high individuality (egoism as suggested by Durkheim), unemployment and decreasing wealth at an older age (ibid).

However, in the global South, suicide tends to peak in middle age and declines afterwards (Mayer, 2011). One reason for the difference in age patterns between the global North and the global South might be the dependence of elders on their children in the global South. For example, at an older age, parents tend to live with their children at a much higher rate in India as compared to the United States (Sivamurthy and Wadakannavar, 2001). What this means is that older people, at least domestically, are more integrated in the global South as compared to the global North. Let us now have a look at the age patterns and suicide rates in India.

**Figure 2.2: Number of suicide victims by sex and age group in India—2013 (total)**



**Source—NCRB (2013)**

Looking at Figure 2.2, the age patterns of suicides in India seem to follow the norm of the global South. The highest incidences of suicides are produced between the age of 15-44 years, declining afterwards. While the highest incidences of female suicides occur in the age group of 15-29 years, the highest incidences of male suicides occur in the age group of 30-44 years.

From the above two sections, it can be seen that both suicide causes as well as the age patterns of suicide victims in India are different to that of the global North. Now, as mentioned earlier, this study investigates the possible effects of modernisation on three specific social factors namely: economy (i.e. economic liberalisation), gender roles and religious values. These three factors help delineate broader social changes that the process of modernisation has brought to the Indian society. I shall start with economic liberalisation.

### **Economic liberalisation in India**

Durkheim (2006{1897}) observed that any sudden change in economic conditions resulting in either increase or loss of wealth increases suicide rates. His argument was based on the fact that society alone can regulate individual passions. However, during times of economic busts or booms, “when the society is disturbed” (ibid, p. 276) and unable to perform its regulatory function over individuals, suicide rates increase.

Now, in recent decades, generally, the global North has seen a decrease in suicide rates while the global South has observed the opposite (Sharma et al., 2007). And many of the developing countries with increased suicide rates have gone through major economic reforms in past decades—for example, China, Eastern European countries, Sri Lanka and India (ibid). However, in the global south, only a few studies have investigated the relationship between economic reforms and suicide rates. For example, a study conducted by Zhang et al. (2010) found an inverse relationship between suicide rates and increase in wealth brought about by economic reforms in China. However, a study conducted by Sadanandan (2014) found a positive relationship between economic reforms and farmer suicides in India. In fact, usually, farmer suicide is the only category which is discussed in relation to economic reforms in India. But before looking further into farmer suicides, I shall briefly describe the general impact of economic liberalisation on the Indian society.

The economic reforms of 1991 initiated by a newly-elected government came as a surprise to many as powerful groups including bureaucrats and leftist-nationalists had strongly opposed the liberalisation of the economy in the past (Pedersen, 2000). However, reasons ranging from mounting national debt to acquiring “a seat at the highest table” (Agrawal, 2013) resulted in the initiation of economic liberalisation in India.<sup>25</sup> This meant the deregulation of markets, reductions in import tariffs and increases in Foreign Direct Investment (ibid). Indeed, the Indian economy since liberalisation has expanded, especially in Information Technology (IT) and the service industry (Bhalla and Singh, 2009; Gosai, 2013). However, there are also debates about the ill-effects of economic liberalisation such as decreasing agricultural subsidies, growing corruption, rising unemployment, rising income inequality, an increase in private sector jobs and a reduction in public sector jobs causing job insecurity (Pal and Ghosh, 2007; Thiel, 2011; Agrawal, 2013).

But when it comes to relating suicides to economic liberalisation in India, farmer suicide is the only suicide category which is discussed in the Indian media and the suicide literature (Stephenson, 2013; Mayer, 2016). For example, many studies have blamed economic liberalisation for increasing farmer suicides in India (for example, Mohanakumar and Sharma, 2006; Sridhar, 2006; Jeromi, 2007; Mitra and Shroff, 2007; Mukherjee, 2009; Sahay, 2010).

### **Farmer suicides in India**

Farmer suicides are not unique to India with many countries from the global North also suffering from the problem (Behere and Bhise, 2009). However, according to Agarwal (2013), farmer suicides in India were unheard of before economic liberalisation. But ever since liberalisation of the economy, they have risen to an estimated one quarter of a million (ibid). Farmer suicides are also relentlessly debated in the Indian media (Stephenson, 2013). These media debates usually point to the general agrarian crisis in India and the indebtedness of farmers as the two main reasons for suicide. In fact, debt is usually seen as the main cause of farmer suicides (Kumar and Sharma, 1998). If we look at the agricultural sector of India, it makes up for more than 50% of the total workforce (Census of India,

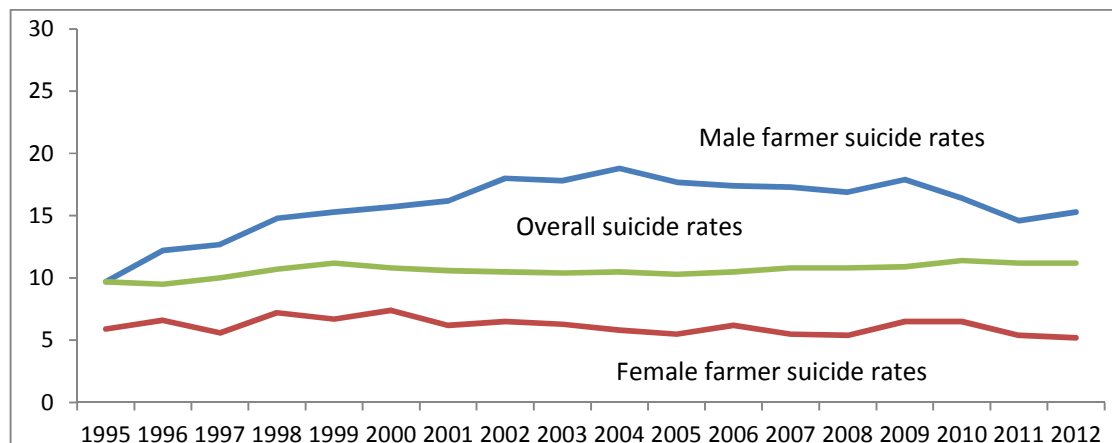
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<sup>25</sup> Ironically, while one of the major reasons for economic liberalisation was the piling national debt to solve this economic crisis, economic liberalisation was initiated with India pledging 67 ton of gold to the IMF as part of a bailout deal (Agrawal, 2013).

2011). However, in most of the Indian states, total agricultural output has decreased since liberalisation (Bhalla and Singh, 2009).

Looking at Figure 2.3, male farmer suicide rates are higher than the overall suicide rates of India between the years 1995-2012. However, Mayer (2011, 2016) downplays the importance of farmer suicides by noting that the media and politicians both use farmer suicide as a tool to critique the economic liberalisation of India. But based on the statistics, as well as the problem of vast under-reporting of farmer suicides in India (Saha, 2005; Biswas, 2015)<sup>26</sup>, it can be stated that the plight of Indian farmers in the liberalised economy cannot be under-estimated.<sup>27</sup>

**Figure 2.3: Farmer suicides (female and male) vs overall suicide rates of India—1995-2012 (per 100,000 population)**



Source—Mishra (2014); NCRB (1995-2012)

### Suicide and unemployment

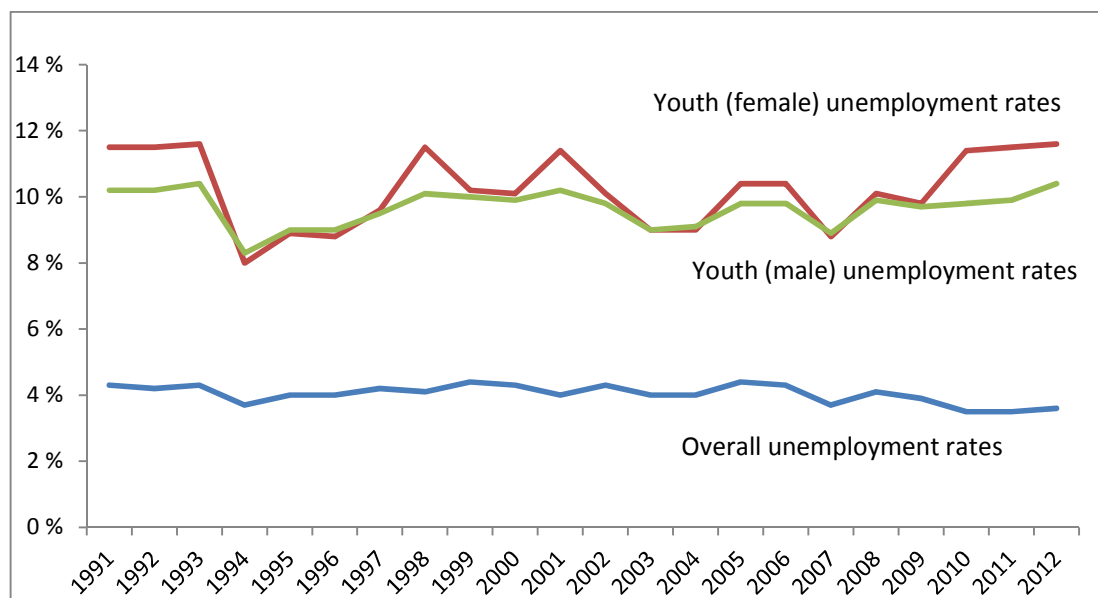
While farmer suicides continue to receive attention from the media, the possible relationship between economic liberalisation, unemployment and increased suicides is rarely discussed in India. So let us turn our focus to unemployment and suicide.

<sup>26</sup> As Saha (2005) notes: “no one really believes NCRB data as credible when it comes to farmer suicides, not even the NCRB”.

<sup>27</sup> What makes the issue of farmer suicides worse in India is the ineffectiveness of preventive measures. For example, Behere and Bhise (2009) note that whenever a drought hits Australia, earnest support is provided to the drought hit region while in India, these efforts are usually limited to political announcements.

The one finding which is consistent in the global North and the global South including India is the elevated risk of suicide among the unemployed (Stack, (II), 2000; Vijayakumar et al., (2), 2005; Mayer, 2011; Nordt et al., 2015).

**Figure 2.4: Youth unemployment rates (female and male) vs overall unemployment rates of India—1991-2012**



**Source—The World Bank (1991-2012)**

Looking at Figure 2.4, youth unemployment rates for both females and males are substantially higher than the overall unemployment rates of India. Now, Stuckler and Basu (2013) discovered elevated rates of suicides among the unemployed during the Depression era in the United States, highlighting how suicide rates rose by about 16 percent during the Depression era (ibid, p.10). However, India's unemployment worries among the *educated* youth are worse than that of the Depression era. During the Depression era, one in four Americans were unemployed (Stuckler and Basu, 2013, p.7).

According to a survey conducted by the Labour Bureau of India, one out of *three* graduates within the age group of 15-29 years is unemployed (Ministry of Labour and Employment, 2013-14). Also, as mentioned earlier, the age group of 15-29 years produces the highest number of female and second highest number of male suicides in India. And not

only among the youth, unemployment is a widespread problem among all age groups in India. As Mander (2016) states: "there is a mounting employment crisis in India". Furthermore, Vicziany (2005) notes: "unemployment is now recognised by policy advisers, foreign and domestic, as a major constraint on Indian development" (p.157). However, none of the studies have looked at state-wise unemployment rates and their effect on suicide rates across India. Consequently, this study shall analyse the effect of unemployment on suicide rates of India.

High farmer suicide rates and high unemployment rates highlight some of the possible adverse effects of economic liberalisation. However, other than farmer suicides, economic liberalisation has not been a subject of debate among the Indian suicide researchers. Consequently, this study shall analyse the effects of economic liberalisation on overall suicide rates of India in the coming chapters. But for now, let us turn our focus to gender.

### **Suicide and gender in India**

Suicide is popularly perceived as a male phenomenon and female suicidal behaviour is usually ignored by researchers (Kushner, 1985; Canetto, 2009). Howard Kushner (1985), who wrote predominantly with a 'northern' view, observed that the attitudes of any given society towards patriarchy and feminism are reflected in their perception and treatment of female and male suicides. Kushner (1985) explained how women in the literature are vilified for committing suicide; for example, for having an illicit love affair. Men, on the other hand, are often seen as victims of hardships and failures owing to various social and economic factors.

Durkheim (2006{1897}) observed that "women commit much less suicide than men" (p.173).<sup>28</sup> Most of the northern studies conducted on suicide since Durkheim have also maintained that men in general are at a greater risk of suicide than women (Stack, (I), 2000). In fact, the Centre for Disease Control (2008) in the United States notes that when compared to women, US men are three to four times more likely to commit suicide (cited in Wray et al., 2011, p.513). Some of the reasons given for the low suicide rate among women as compared to men in the global North include: higher religiosity, less experience of

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<sup>28</sup> In an incredibly patriarchal passage, Durkheim (2006{1897}) wrote that women commit suicide much less than men because "essentially a traditionalist, a woman moulds her conduct according to established beliefs and does not have great intellectual needs" (p.173).

rejection and loneliness, more flexible attitudes towards life, a broader social support system and more limited access to firearms (see Stack, (I), 2000 for a comprehensive list).

The Northern literature also suggests that, unlike completed suicides, attempted suicides occur more among women as compared to men (Kushner, 1985; Canetto, 2009). However, Canetto (2009) notes that this paradox of *higher* suicide ideation but *lower* suicide mortality among females is not consistent among different countries within the global North. And while this paradox is usually explained by the claim that women are more impulsive and “do not really want to kill themselves” (Callanan and Davis, 2012, p.858), Canetto (2009) highlights that the research conducted in the global North simply “does not support” such arguments (p.244).

Turning the focus to the global South, the claim that men commit suicide at higher rates as compared to women holds true. However, the gender difference is *much narrower* than the global North (Vijayakumar, 2004; Khan, 2005; Mayer 2011).<sup>29</sup> This holds true in India as well where males are only 1.4 times likelier to commit suicide than females (Mayer, 2011). Some of the reasons provided for higher female suicide rates in the global South include the extent of patriarchal domination and lower social status of women (Vijayakumar, 2004; Khan, 2005; Mayer, 2011).

The other Northern claim about women having higher attempted suicide rates than men is statistically impossible to investigate as most countries do not keep official records on attempted suicides (all such analyses usually come from individual suicide studies). Looking at sparse individual studies conducted on attempted suicides in India, most report negligible difference between female and male suicide attempters (Bhatia et al., 2000; Kumar, 2004; Saddichha et al., 2010; Menon et al., 2015). However, the perception of attempted female suicide in India remains similar to the global North. As Chua (2014) notes about the patriarchal perceptions within the Indian community: “nonfatal female suicidal gestures are heavily weighted on the side of insincerity, manipulation, and false intent as contrasted to men’s suicide, which are taken to convey self-determination and the will to “complete” the act” (p.113).

Irrespective of the completed or attempted suicide rates, the reasoning behind suicides for males and females seems to be similar in both the Indian and the western

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<sup>29</sup> China is the only country in the world where female suicide rate exceed that of men (Cheng and Lee, cited in Hawton, 2000).

literature. Analogous to findings of the western literature, male suicides in India are generally associated with social and economic reasons while female suicides are linked to emotional and personal causes (NCRB, 2013).

Furthermore, similar to Kushner's (1985) observation about the vilification of female suicides in the global North, Tousignant et al. (1998) highlights that women are usually vilified for committing suicide in India as well. For example, Tousignant et al. (1998) claim that women who commit suicide in India are usually accused of having either pre-marital or an extra marital love affair. Furthermore, many married women in India are even blamed for 'driving' their husbands to suicide (ibid). Hence, it can be concluded here that while there are stark differences between suicide rates, motives and explanations between the global North and India, there is one conspicuous similarity between the two—misogyny.

### **Changing gender roles and their possible effects on female suicides**

Analogous to the western literature, female suicidal behaviour in India is largely ignored as well (Mayer, 2016). However, the issue of female suicide in India is more severe than in the global North (Rane and Nadkarni, 2014). Suicide is now the leading cause of death among young women in India (Clark, 2013). Furthermore, since 1997, more than 20,000 *housewives* have been killing themselves in India every year (NCRB, 1997-2013).<sup>30</sup> In fact, India is ranked 2<sup>nd</sup> in overall female suicide rates globally (Swanhuyser, 2016). Canetto (2009) suggests that female suicides, especially married female suicides, are more common in patriarchal cultures.<sup>31</sup>

India has traditionally been a patriarchal society which is still evident in contemporary India where women are usually expected to assume a subordinate role in the society (Kimuna et al., 2013). However, with rising female literacy and modernisation, the patriarchal culture of India is increasingly becoming a significant issue of stress (Census of India, 2011; Bhaskaran, 2011; Bansal, 2012). As aptly suggested by Bansal (2012) in this short passage:

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<sup>30</sup> Suicides among married women in India are usually ascribed to the mistreatment of women and the expectation from women to stay married even in an abusive marriage (Sharma et al., 2013).

<sup>31</sup> The problem of married female suicides is not just limited to India as many countries from the global South also suffer from the same issue (Khan, 2005). This is contrary to the western literature where marriage serves as a protective factor against suicide (Durkheim, 1897; Khan, 2005; Mayer, 2011).



Modernisation and individualisation in terms of higher education, career orientation and intimacy needs generate considerable conflict with internalised and socially expected traditional attitudes and values around womanhood. Expectations remain that even when the girl attains higher education and positions of work, she will keep up the *traditional familial manners, roles and responsibilities* (p.251).

However, none of the studies conducted hitherto have quantified a state-wise relationship between female literacy rates and female suicide rates across India. Hence, this study shall explore this relationship in the coming chapters. But for now, let us turn to the possible role of religion.

### **Suicide and religion in India**

Durkheim (1897) was among the first scholars to establish religiosity as a protective factor against suicide. However, he established that different religions can have different effects on suicide ideation. For example, Durkheim used the example of Protestants and Catholics to conclude that the reason for the high number of Protestants committing suicide as compared to Catholics was the more individualistic (egoistical) nature of Protestantism. Since Durkheim, many studies conducted in the global North have established variance in suicide rates across various religions (Gearing and Lizardi, 2009). For example, Protestants were found to have the highest suicide rates in the United States (Maris et al., 2000, cited in Gearing and Lizardi, 2009). Moreover, religious countries generally have lower suicide rates than secular countries (Retterstol and Ekeberg, 2009).

If we look at the global South, there have been very limited studies conducted on the relationship between religiosity and suicide. However, those scarce studies show that Muslims, as compared to Hindus or Christians, have lower suicide rates (Abdel-Khalek, 2004; Ineichen, 1998, cited in Gearing and Lizardi, 2009). This finding holds true for India as well.

As mentioned earlier, Hindus were 'allowed' to commit suicide if they had committed grave sins, if they had terminal illness, if they were old and unable to control their bodily functions or if they felt that their life's work was over (Vijayakumar, 2009). Hindus also believed that by committing suicide at certain holy places such as Kasi (Varanasi in modern India) or Prayag (the convergence of three rivers—Ganga, Yamuna and Saraswathi), eternal salvation or *moksha* could be attained (ibid). For example, at the

Jagannath temple in Puri (Orissa), once a year, a deity was taken out in a temple car and hundreds of people would commit suicide by throwing themselves under the vehicle in the hope of attaining *moksha* (ibid). While with time, most of such suicides were made illegal, Hinduism has always been tolerant and even approving towards religious suicides.

In Islam, by contrast, suicide is strictly forbidden. The Holy Quran specifically forbids suicide in Surah 4, verses 29 and 30 (Gearing and Lizardi, 2009). According to Islam, committing suicide leads to eternal damnation (ibid). Due to such strict religious sanctions, suicide is highly socially stigmatised in Islamic countries. Moreover, in many Islamic countries which follow the Sharia (Islamic law), both suicide and attempted suicide are criminal offences (Okasha and Okasha, 2009). Hence, while studies conducted in Islamic countries do show that suicide among Muslims is rare, suicide rates might be much higher than actually reported. Nevertheless, as far as religious sanctions go, suicide remains forbidden in Islam.

Within Christianity, the word suicide is not mentioned in the Holy Bible (Gearing and Lizardi, 2009). However, Christian Saints such as St. Augustine and St. Thomas Aquinas vocally condemned suicide as an act against God's will (Retterstol and Ekeberg, 2009).

Hence, suicide is usually perceived as a sin among major Christian denominations: Catholicism, Protestantism and Orthodoxy (Gearing and Lizardi, 2009). However, Catholics are usually found to have lower suicide rates than Protestants. This can be attributed to Durkheim's (2006{1897}) reasoning behind high Protestant suicide rates: "the tendency towards suicide among Protestants must be related to the spirit of free inquiry that informs that religion" (p.164). Nevertheless, as far religious sanctions go, Christianity also remains against the act of suicide. Hence on religious grounds, Hindus, especially when compared to Muslims and Christians, seem to be at greater risk of committing suicide. On that note, I shall now turn my focus to popular religious orientations and suicide in India.

Hinduism is the major religion in India with 79.80% of the whole population following the religion (Census of India, 2011). Other prominent religions include Islam (14.23%) and Christianity (2.30%). Among the less prominent religion are Sikhism (1.72%), Buddhism (0.70%) and Jainism (0.37%) (ibid). Scholars such as Durkheim (1897) and Thakur (1963) related Hinduism with high suicide ideation. However, in the absence of any official data about suicide and religion, they mostly had to rely upon historical texts, literature and

folk tales to draw conclusions about suicide rates and religiosity in India. Unfortunately, official statistics still do not provide the religious orientation of suicide victims in India.<sup>32</sup>

Consequently, the relationship between various religions and suicide is vastly under-researched in India. While small studies conducted by Vijayakumar (2002) and Gururaj et al. (2004) do conclude that religiosity provides a protective factor against suicide in India, their scope, sample size and the methodology (verbal autopsies) make it impossible to generalise their conclusions to the whole population. Moreover, these studies take religiosity as a broad term without discussing any of the different orientations.

As mentioned above, religious orientations of suicide victims are not available. Fortunately, state-wise religious orientation percentages are available on the Census of India website. Hence, I shall include state-wise religion statistics in my quantitative analysis and test their effect on the state-wise suicide rates across India. More importantly, this study shall investigate whether religious sanctions towards suicide have been affected by the process of modernisation.

### **Suicide and modernisation in India**

So far the discussions in this chapter have concentrated on three specific social aspects: economic liberalisation, changing gender roles and religious values. Now, these three social aspects are investigated to understand the relationship between suicide rates and modernisation in the Indian society. Hence, another way to investigate the impact of these three variables on suicide rates is to discuss the process of modernisation itself.

Durkheim (1897) found that the processes of urbanisation, industrialisation and education (indicators of modernisation) positively contributed towards anomic and egoistical suicides (Makinen, 2009). And while many of the early studies conducted after Durkheim found a positive relationship between increasing suicide rates and indicators of modernisation, studies conducted at a later stage found mixed trends in the global North (Makinen, 2009; Stack, (II), 2000).

In the global South, there is a scarcity of studies analysing the relationship between modernisation and suicide. However, some studies found a positive relationship between

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<sup>32</sup> Mayer (2011) blames the absence of religious orientation of suicide victims on the suspicion of the political misuse of such information (p.154) but, does not expand on the argument.

literacy and suicide (Vijayakumar et al., (2), 2005; Mayer, 2011).<sup>33</sup> Mayer (2011) conducted the only study which comprehensively assessed the relationship between modernisation and suicide in India through statistical analyses of social indicators. However, the suicide data of Mayer's (2011) study is mostly from the years of early 1980s to the early 1990s. Moreover, it does not draw a distinction between north Indian and south Indian states. According to the NCRB, suicide rates of south India are much higher than suicide rates of north India (NCRB, 2000-2013; Rane and Nadkarni, 2014). South India also has much higher literacy rates, urbanisation rates, per capita income and life expectancy rates as compared to north India (Census of India, 2011; Paul and Sridhar, 2013). In other words, south India is much more 'modernised' than north India. Consequently, I shall treat the states of south India as a further indicator of modernisation and test that effect on the overall suicide rates across India.

Hence, this study shall use available data in order to test the significance of various indicators of modernisation on contemporary Indian suicide rates. Based on the availability of statistics, this study will use literacy rates (female and male), workforce participation rates (female and male), Gross Domestic Product (GDP) per capita, rural and urban population percentage, Human Development Index (HDI) and southern states of India as indicators of modernisation. These indicators will be tested through BALRM.

## **Conclusion**

This chapter set out to achieve two primary objectives: to draw comparisons between suicide patterns of the global North and India and to identify various social factors that might be having an impact on suicide rates of India. Based on the discussion above, we found both similarities and differences among suicide patterns between the global North and India. For example, both regions vilify female suicides. However, marriage is not a protective factor against suicide in India even though it emerges as a protective factor in the global North.

Four of the most important insights that emerged from the literature review are: the possible effects of economic liberalisation on Indian suicide rates in general and not just on farmer suicides; the possible effects of changing gender roles of women on female suicide

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<sup>33</sup> Although, Mayer's (2011) study, interestingly, found that indicators of modernisation (urbanisation, industrialisation and Human Development Index) were having an impact on the rural suicide rates of India and not in urban areas.

rates of India; the possible effects of Hinduism on suicide rates of India; and the possible effects of modernisation on suicide rates of India.

## **Chapter 3—Research methodology**

### **Introduction**

In the previous chapter, I identified various macro-level social factors that may have an impact on suicide rates of India. The task now is to investigate the significance of these factors on suicide rates of India. This study accomplishes this through a mixed method approach which contains both quantitative and qualitative components. This chapter explains the rationale for choosing a mixed method approach for this study and discusses the research methods, the ethical considerations, and the limitations of the methodology. The purpose of this chapter is to delineate why a mixed method approach is appropriate for this study and how it is implemented.

### **Mixed method design**

Mixed method research consists of both quantitative and qualitative data analyses. As Creswell (2014) notes: “the core assumption of mixed methods is that it provides a more complete understanding of a research problem than either approach alone” (p.4). This study also utilises two different research methods namely: bivariate analysis and linear regression modelling (BALRM) and in-depth interviews. Both methods complement each other in providing detail the other method is unable provide on its own.

### ***BALRM and in-depth interviews***

I have previously argued that suicides are a complex sociological phenomenon rather than a simple psychological issue. However, while many of the psychological issues are clinically diagnosable, social issues are not. Now, many studies conducted in the past have used social statistics to demonstrate a positive relationship between social causes and suicide rates of societies (for example, Durkheim, 1897; Vijayakumar et al., 2005; Mayer, 2011). Hence, in order to establish an association between sociological factors and suicide in India, this study also chose a statistical research approach comprising bivariate analysis as well as linear regression analysis. Bivariate analysis is a technique which explores the empirical relationship between two different variables. Linear regression, on the other hand, is used

to explore the relationship between one dependent variable (in this case, state-wise<sup>34</sup> suicide rates across India) and one or more independent variables (Pallant, 2016, p.149).

Since there is a debate surrounding the use of regression analysis for small sample size, the results from bivariate analysis are given interpretational priority over regression analysis.<sup>35</sup> Nevertheless, regression analysis is also conducted as the study is interested in measuring the strength of the combined impact of various social factors on suicide rates across India.<sup>36</sup>

The qualitative approach comprises in-depth interviews with six suicide experts (three Indian and three Kerala experts) to further understand the impact of social factors on suicide rates. The data from in-depth interviews helps to explain why the social factors identified in BALRM matter and how they can be associated with broader suicide patterns of the country. In-depth interviews also inform us about factors identified in the previous chapter, which might be having an impact on suicide rates but are not statistically possible to measure—for example, changing gender roles of women<sup>37</sup>. Hence, the interviews are informed by the findings of BALRM as well as by the salient themes identified from the literature review. Now, while many research designs exist within the mixed method approach, this research utilises the *explanatory sequential design* (Figure 3.1). This “involves a two-phase project in which the researcher collects quantitative data in the first phase, analyses the results, and then uses the results to plan the second, qualitative phase” (Creswell, 2014, p.224). This approach is adopted because this study first needs to identify significant social factors affecting suicide rates of India (through BALRM) and then explore their relevance to understanding suicide in Kerala and India (Figure 3.2). However, as mentioned above, the purpose of in-depth interviews goes beyond expert commentary on the quantitative findings.

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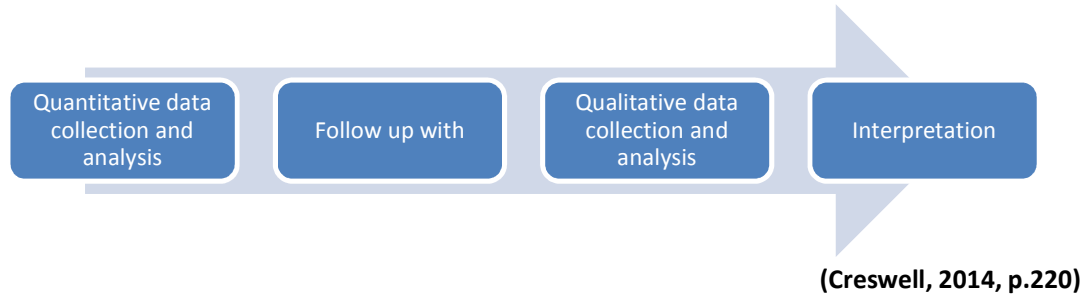
<sup>34</sup> All the data is state-wise in order to investigate the impact of social factors on the cumulative suicide rates of India.

<sup>35</sup> The small sample size problem is discussed in detail in the next chapter.

<sup>36</sup> Since there are multiple independent variables, and since the study is interested in investigating their combined effect on the collective suicide rates of India, multiple linear regression analysis is chosen.

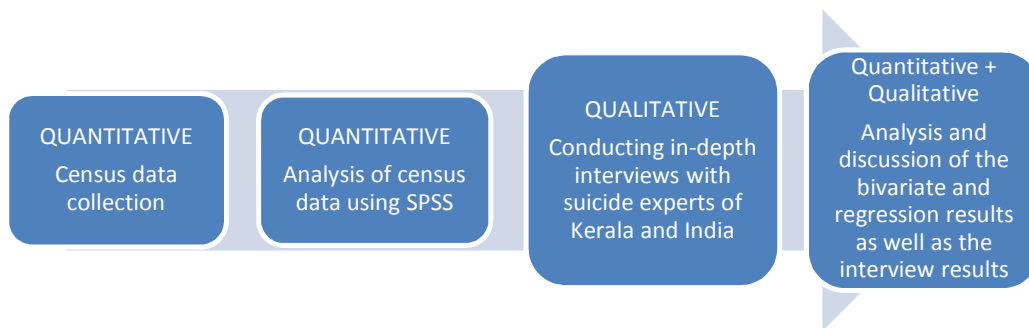
<sup>37</sup> Sure, increasing literacy rates can be viewed as an indicator of changing gender roles of women but it does not explain the broader association between changing gender roles and suicide rates.

**Figure 3.1: Creswell's explanatory sequential design**



Based on Creswell's model presented above, my research can be mapped out below as follows:

**Figure 3.2: A mixed method sequential approach to explore various social factors related to suicides in Kerala and India.**



### **Quantitative research methods**

The statistical data for bivariate and regression analysis was primarily obtained from the Census of India, National Crime Records Bureau (NCRB), Ministry of Statistics & Programme Implementation (MOSPI) and Institute of Applied Manpower and Resources (IAMR) websites.<sup>38</sup> This data was then analysed to quantify associations between various social indicators and suicide rates at the state level.

### **Data analysis**

Quantitative data analysis was carried out using IBM SPSS statistics software (version 21). All variables used for both the analyses contained data for each state (29) and union territory (6) of India as this study is interested in investigating the collective impact of social factors

<sup>38</sup> Data collected from Census of India website includes: religious population rates, literacy rates, GDP per capita, rural and urban population percentage. Data collected from NCRB website includes: suicide rates. Data collected from MOSPI website: unemployment and workforce participation rates. Data collected from IAMR website includes: HDI.



on suicide rates across the country. Hence, there were a total of 35 cases (29 states and six union territories) for each variable.<sup>39</sup>

The dependent variable is state-wise suicide rates across India for the year 2012. The independent variables include (all state-wise) religious population rates including for Hindus, Muslims, Christians, Sikhs and Jains; literacy rates; unemployment rates; workforce participation rates; GDP per capita; rural-urban population percentage; Human Development Index (HDI); and a classification based on geographic locations of south, north, east and west Indian states (see Appendix 2 for the source and the measurement of all variables).

### **Qualitative methods: In-depth interviews**

In-depth interviews gathered participants' expert opinions on the patterns and causes of suicide in Kerala and India. The participants include: two suicide experts directly involved with the District Mental Health Programme (DMHP) in Thiruvananthapuram (Kerala) (DMHPs are responsible for implementing suicide prevention strategies in Kerala), one academic expert on suicide rates of Kerala, and three academic experts (one sociologist, one psychiatrist and one public health expert) in the field of suicide and suicide prevention in India.

The first two Kerala experts from the DMHP were recruited because of their professional as well as academic knowledge on suicides in Kerala. Their 'ground' knowledge on suicides in Kerala was one of the primary reasons for their recruitment. Both the experts deal with suicidal patients on a daily basis and are responsible for implementing suicide prevention strategies in Kerala. The third expert was chosen because of his academic knowledge in the field of suicide in Kerala. The expert's specific focus on how suicides in Kerala are dealt through various prevention strategies helped with understanding the perception of suicide as a *social* problem in Kerala.

The two Indian experts—one sociologist and one psychiatrist—were chosen to further grasp the various explanations for suicide established in the academic fields of sociology and psychology. They were primarily recruited to understand suicide as a social

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<sup>39</sup> India has a total 29 states and seven union territories. However, the data from the state of Telangana, which was created in 2014, is not included in the data set as all the statistics used for the analyses are from the previous years.

problem as well as a psychological one and how the two might be correlated to each other. However, along with the sociologist, the psychiatrist also provided valuable insights into the social causes behind suicides in India. The third public health expert on suicide was chosen to understand the lack of suicide prevention efforts in India. Moreover, this expert was particularly asked about the problems with the states in India which *have* suicide prevention strategies and are not yet adequately addressing the issue.<sup>40</sup>

Interview questions primarily focussed on social factors discovered to be relevant in BALRM as well as on other relevant factors which might deepen the understanding of suicide as a social problem in Kerala and India (see Appendix 4 for specific questionnaires designed for each participant). The identity of all the participants is kept anonymous due to the Macquarie University Ethics requirement of the study (see Appendix 3 for the specific area of expertise of all the participants).

### ***Data analysis***

Thematic analysis was used to analyse the interview data which is “the search among data to identify content” (Marshall and Rossman, 1999, cited in Fox, 2004, p.1). Themes from a set of data can be analysed through an inductive/emergent or a deductive/pre-figured approach (Fox, 2004, p.2; Braun and Clarke, 2006, p.84). This study used the latter approach because the study was primarily interested in exploring suicide rates of Kerala and India predominantly through the specific social factors that showed a positive relationship with suicide rates across India in BALRM and the salient social factors identified from the literature review. Hence, broader themes of the interviews were “pre-figured” (Fox, 2004, p.2) before the interviews were conducted rather than being ‘identified’ from the interviews. For example, one of the broader themes was ‘mental illness’. It was identified from the literature that mental illness is not a major cause for committing suicide in India. One of the interviewees highlighted that this might be because mental illness is usually

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<sup>40</sup> Suicide prevention was a part of this study but was later removed due to an imbalance between the grand focus of the study and the word limitation of the thesis. Hence, most of the participants were recruited for their knowledge in suicide prevention and suicide as opposed to recruiting all participants for their specific knowledge on suicide as a social or a psychological problem. Nevertheless, as we shall see in Chapter 5, all the experts provided valuable insights into the problem of suicide in Kerala and India and how it can be perceived as a social problem.

expressed as physical pain among suicide victims in India. Hence, a sub-theme, 'psychological illness expressed as physical pain' was identified.<sup>41</sup>

### **Ethical considerations**

Ethics approval was obtained on 21st March, 2016 (reference no: 5201600019) (attached at the end of the thesis) from Macquarie University Human Ethics Committee. Because of the very nature of the phenomenon, suicide is a sensitive topic. Hence both the participants and the researcher might have been at risk. However, this study does not deal with any specific suicide case but instead focuses on the social causes of suicide. While the study asked professionals about their views on suicide patterns and causes, these professionals deal with the issue of suicide as a health issue on a daily basis.

However, as a student researcher, there was a chance that I might have been at risk of some psychological distress because of the subject matter. Consequently, proper procedures were established in case a distressing situation arose. I kept the contact information of counselling services from the Campus Wellbeing at Macquarie University at hand throughout the research process.

### **Limitations of the methodology**

The short time frame of the study created some limitations. Firstly, there was no time to collect quantitative data in India through a sample survey. Sample survey research would have concentrated on certain social aspects (for example, the religious orientation of suicide victims) that NCRB data does not offer information upon. However, due to time limitations, sample survey could not be conducted. Secondly, due to the limited time frame and the availability of the interviewees, I was not able to conduct respondent validation. This validation involves, "research participants responding either to forms of initial data, for example, transcripts of interviews, in order to check them for accuracy, and also for the interpretive claims that are being made" (Bloor, 1978; Lincoln and Guba, 1985, cited in Torrance, 2012, p.114). Despite all these limitations, this study still aims at gaining valuable insights on an important yet under-researched topic in India.

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<sup>41</sup> It should also be noted here that the sub-themes were not identified because of their repeated occurrence in the interviews as some studies do (Braun and Clarke, 2006). Rather they were identified because of their effectiveness in explaining the relationship between the broader social factors and suicide rates of Kerala and India.

## Chapter 4—Social causes of suicide: Quantitative analysis

### Introduction

In Chapter 2, I identified various macro-level social factors that might be having a positive impact on suicide rates across India. The identified social factors are: literacy rates; unemployment rates; workforce participation rates; Gross Domestic Product (GDP) per capita; rural and urban population rates; Human Development Index (HDI); and religious population rates. The purpose of this chapter is to establish a statistical relationship between these macro-level social factors and state-wise suicide rates of India. This is accomplished through two statistical approaches: bivariate analyses and linear regression modelling. The data used for these two approaches is *state-wise* since this study is interested in investigating the impact of *social* factors on the *aggregate* suicide rates across India. However, data is also analysed for female and male suicide rates separately to investigate the impact of social factors on gender-wise suicide rates.<sup>42</sup>

The biggest limitation of the data is the small sample size. We only have 35 cases (29 states and 6 union territories) per independent variable.<sup>43</sup> Conventional wisdom dictates that conducting linear regression analysis for a small sample size might not produce reliable results (Pallant, 2016). According to Tabachnick and Fidell (2013), there should be at least 15 cases per independent variable for a reliable regression analyses (cited in Pallant, 2016, p.151). However, according to a recent study conducted by Austin and Steyerberg (2015), only 2 cases per independent variable are sufficient for an accurate linear regression analysis.

Since the debate about the number of cases per independent variable is still ongoing, this study chose the bivariate approach, which determines the empirical relationship between two variables, as well as the linear regression approach. However, because of the small sample size of the data, bivariate analyses are given interpretational priority.

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<sup>42</sup> However, there were only three gender-wise social factors available: literacy rates, unemployment rates and workforce participation rates. Furthermore, NCRB does not provide separate female and male suicide rates. Hence, the gender-wise, state-wise suicide rates had to be calculated by dividing the total number of gender-wise suicides for a state by the total gender-specific population of the state multiplied by 100,000.

<sup>43</sup> India has a total of 29 of states and seven union territories. However, the data for the state of Telangana, which was created in 2014, is not included in the data set as all the statistics used for the analyses are from the previous years.

This chapter reports scatterplots based on variables that show a significant influence on suicide rates across India in bivariate analyses. Similarly, regression models report those variables with a significant impact on suicide rates.

### **Bivariate analysis of state-wise suicide data**

Bivariate analyses were conducted to examine the basic relationship between independent variables and suicide rates. The relationship was considered strong when the Pearson Correlation was closer to 1 or -1 while the relationship was considered significant when the significance value was below 0.05 ( $p < 0.05$ ).

Table 4.1 outlines bivariate analyses of significant social variables and state-wise suicide rates of India.<sup>44</sup> The independent variables that showed a positive and significant impact at  $p=0.05$  on suicide rates are: literacy rates ( $r=0.35$ ), Hindu population rates ( $r=0.34$ ) and Gross Domestic Product (GDP) per capita ( $r=0.35$ ). Furthermore, Human Development Index (HDI) ( $r=0.20$ ) and unemployment rates ( $r=0.21$ ) show a positive relationship with suicide rates but they are not significant at  $p=0.05$ . Urban population rates ( $r=0.16$ ) shows a weak and insignificant relationship with suicide rates. Muslim population rates ( $r=-0.29$ ) shows a moderately strong, negative but insignificant relationship with suicide rates. Rural population rates ( $r=-0.15$ ) show a weak, negative and insignificant relationship with suicide rates.

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<sup>44</sup> The variables not presented in the table are extremely insignificant to report.

**Table 4.1: Bivariate associations between state-wise suicide rates and selected social factors**

		Correlations										
		Overall_suicide_r	Female_suicide_r	Male_suicide_r	Overall_literacy_r	Overall_UE	Hindu_pop	Muslim_pop	HDI	Urban_pop	GDP_per capita	Rural_pop
Overall_suicide_r	Pearson Correlation	1	.871**	.925**	.354*	.209	.342*	-.292	.203	.156	.349*	-.156
	Sig. (2-tailed)		.000	.000	.037	.228	.044	.089	.299	.371	.040	.371
	N	35	34	35	35	35	35	35	28	35	35	35
Female_suicide_r	Pearson Correlation	.871**	1	.882**	.175	.075	.448**	-.260	.024	.095	.306	-.095
	Sig. (2-tailed)	.000		.000	.323	.673	.008	.137	.905	.592	.078	.592
	N	34	34	34	34	34	34	34	28	34	34	34
Male_suicide_r	Pearson Correlation	.925**	.882**	1	.273	.226	.331	-.262	.170	.162	.385*	-.162
	Sig. (2-tailed)	.000	.000		.112	.192	.052	.128	.387	.351	.022	.351
	N	35	34	35	35	35	35	35	28	35	35	35
Overall_literacy_r	Pearson Correlation	.354*	.175	.273	1	.247	-.198	.081	.753**	.642**	.609**	-.642**
	Sig. (2-tailed)	.037	.323	.112		.152	.255	.643	.000	.000	.000	.000
	N	35	34	35	35	35	35	35	28	35	35	35
Overall_UE	Pearson Correlation	.209	.075	.226	.247	1	-.293	.252	.340	-.019	.301	.019
	Sig. (2-tailed)	.228	.673	.192	.152		.088	.144	.076	.913	.079	.913
	N	35	34	35	35	35	35	35	28	35	35	35
Hindu_pop	Pearson Correlation	.342*	.448**	.331	-.198	-.293	1	-.383*	-.422*	-.034	.075	.034
	Sig. (2-tailed)	.044	.008	.052	.255	.088		.023	.025	.845	.670	.845
	N	35	34	35	35	35	35	35	28	35	35	35
Muslim_pop	Pearson Correlation	-.292	-.260	-.262	.081	.252	-.383*	1	-.076	.157	-.130	-.157
	Sig. (2-tailed)	.089	.137	.128	.643	.144	.023		.699	.367	.456	.367
	N	35	34	35	35	35	35	35	28	35	35	35
HDI	Pearson Correlation	.203	.024	.170	.753**	.340	-.422*	-.076	1	.522**	.551**	-.522**
	Sig. (2-tailed)	.299	.905	.387	.000	.076	.025	.699		.004	.002	.004
	N	28	28	28	28	28	28	28	28	28	28	28
Urban_pop	Pearson Correlation	.156	.095	.162	.642**	-.019	-.034	.157	.522**	1	.671**	-1.000**
	Sig. (2-tailed)	.371	.592	.351	.000	.913	.845	.367	.004		.000	.000
	N	35	34	35	35	35	35	35	28	35	35	35
GDP_per capita	Pearson Correlation	.349*	.306	.385*	.609**	.301	.075	-.130	.551**	.671**	1	-.671**
	Sig. (2-tailed)	.040	.078	.022	.000	.079	.670	.456	.002	.000		.000
	N	35	34	35	35	35	35	35	28	35	35	35
Rural_pop	Pearson Correlation	-.156	-.095	-.162	-.642**	.019	.034	-.157	-.522**	-1.000**	-.671**	1
	Sig. (2-tailed)	.371	.592	.351	.000	.913	.845	.367	.004	.000	.000	
	N	35	34	35	35	35	35	35	28	35	35	35

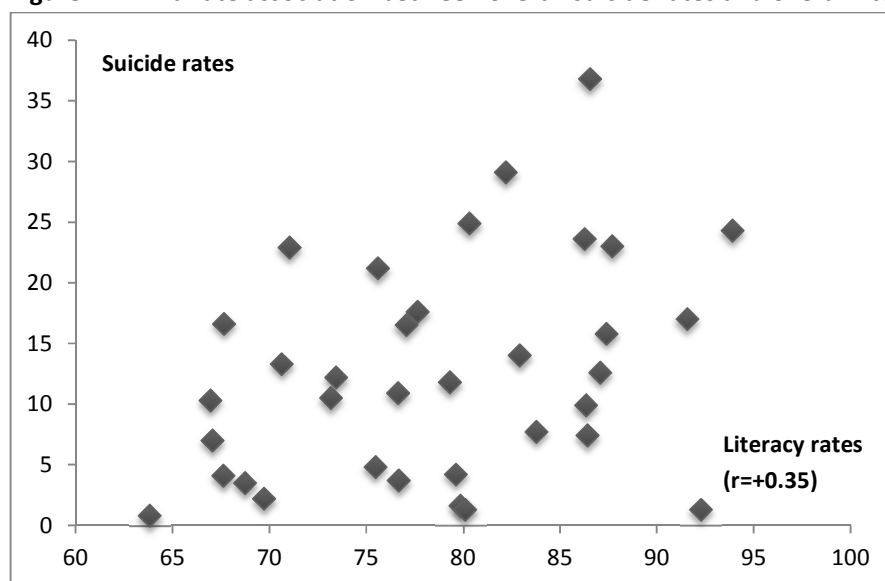
\*\* . Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

### Scatterplots of suicide rates and significant social factors

The scatterplots presented below show the significant impact of literacy rates, Hindu population rates and GDP per capita on suicide rates across India. Also, while unemployment does not show a significant impact in the bivariate analysis, the scatterplot is still presented because unemployment does show significance with suicide rates in some regression models.

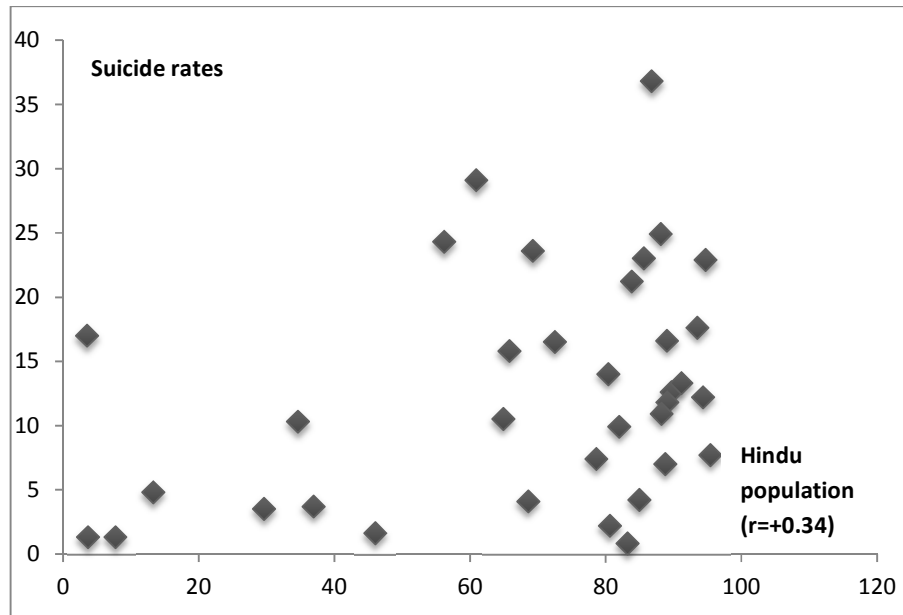
**Figure 4.1: Bivariate association between overall suicide rates and overall literacy rates**



Source—Census of India, 2011; NCRB 2012

Figure 4.1 shows a moderate linear relationship between literacy rates and suicide rates ( $r=0.354[p=0.03^*]$ ). This means that the states with higher literacy rates tend to have higher suicide rates as well.

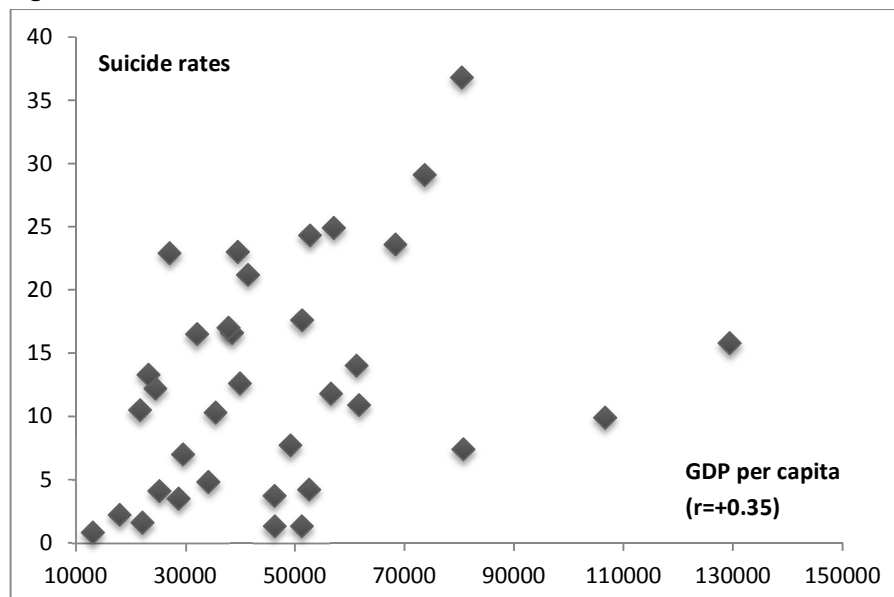
**Figure 4.2: Bivariate association between overall suicide rates and overall Hindu population rates**



**Source—Census of India, 2011; NCRB, 2012**

Figure 4.2 shows a moderate linear relationship between Hindu population rates and suicide rates with some obvious outliers ( $r=0.342[p=0.04^*]$ ). This means that states with larger share of Hindus in the population tend to have higher suicide rates.

**Figure 4.3: Bivariate association between overall suicide rates and overall GDP per capita**

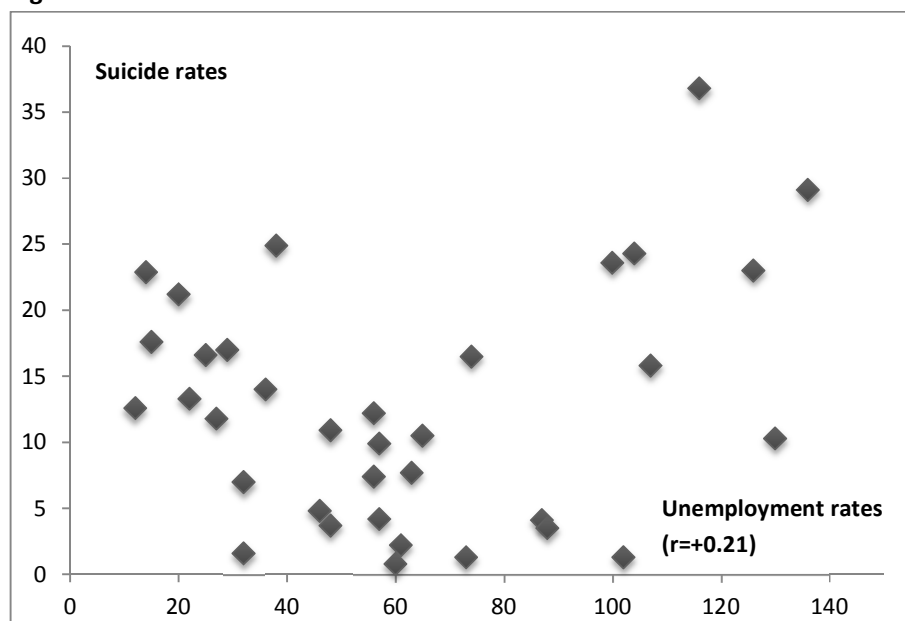


**Source—Ministry of Statistics and Programme Implementation, 2011-12; NCRB, 2012**



Figure 4.3 shows a moderate linear relationship between GDP per capita and suicide rates ( $r=0.349[p=0.04^*]$ ). This means that the more affluent states generally have higher suicide rates.

**Figure 4.4: Bivariate association between overall suicide rates and overall unemployment rates**



**Source—Ministry of Statistics and Programme Implementation, 2011-12; NCRB, 2012**

Figure 4.4 shows a rather inconsistent, 'V' shaped relationship between unemployment rates and suicide rates. Consequently, the bivariate analysis did not find any significant impact of unemployment rates on the overall suicide rates of India ( $r=0.209[p=0.23]$ ). This means that, generally, unemployment rates do not have an impact on suicide rates across India.

In chapter 2, I mentioned that north India has lower suicide rates while south India has higher suicide rates. Table 4.2 below shows the disparity of suicide rates between various regions of India. The mean suicide rates of different regions of India confirm the pattern of increasing suicide rates as we move towards south India and vice versa. This finding is especially important for regression analyses.

**Table 4.2: Mean suicide rates of different geographic regions of India**<sup>45</sup>

Regions	Mean suicide rates
North India (n=9)	5.58
East and West India (n=19)	12.91
South India (n=5)	24.76

**Source—NCRB, 2012**

### **Linear regression: Testing the strength of the combined impact of social factors on suicide rates**

The regression tables presented in this chapter are for overall suicide rates as well as for gender-specific suicide rates. There are six models generated for overall suicide rates with various combinations of variables. However, due to lack of gender-specific data, only two models are generated for each female and male suicide rates. There are three major values highlighted in the presented tables: the standardised Beta coefficient, the adjusted R-square and the p value significance. The standardised Beta coefficient ( $\beta$ ) denotes the Beta value where Beta is the rate increase on the Y axis (response or dependent variable) when there is a one percent rate increase on the X axis (explanatory or independent variable). The R-square value denotes the strength of the relationship between the dependent and the independent variable (Agresti and Finlay, 1997, p.325).<sup>46</sup> The \* sign denotes the significance

<sup>45</sup> Excluding Lakshadweep and Andaman and Nicobar Islands.

<sup>46</sup> While models with bigger sample size may choose to report the R-square value, since we had a small sample size, the adjusted R-square value is reported.<sup>46</sup> This is because the R-square value for small samples might be overestimated whereas the adjusted R-square value denotes the 'corrected' value (Pallant, 2016, p.162). For example, in Model 1 of the table below (4.3), 48 percent of the total variability in suicide rates of India can be explained by all the independent variables of Model 1. The adjusted R-square value only accounts for the independent variables that are actually affecting the dependent variable whereas the R-square value assumes that all the independent variables are having an impact on the dependent variable. The closer the value adjusted R-square gets to 1, the stronger the model becomes.

of the relationship between independent variables and the dependent variable. Values below 0.05 ( $p < 0.05$ ) are considered significant and are highlighted by \* whereas values below 0.01 ( $p < 0.01$ ) are considered highly significant and are highlighted by \*\*.

All the variables which demonstrated a significant relationship with suicide rates in bivariate analyses were tested in regression models. Also, the regions of south India and north India were included in all regression models (as dummy variables).

Furthermore, the variables which were not significant but nevertheless were reasonably positively or negatively associated with suicide rates such as HDI, unemployment rates, Muslim population rates were also tested. However, due to the small sample size, all the models (except Model 5 in Table 4.3) were limited to a maximum number of four independent variables.

A variable named 'modernisation scale' was created to capture the *combined* effect of various independent variables which represent the process of modernisation by adding together the standardized values of GDP per capita, urban population rates and overall literacy rates for each state. This variable was created to deal with the problem of multicollinearity between variables<sup>47</sup> as well as limits on the number of variables that can be entered into a regression model with a small sample size. The alpha score of the 'modernisation scale' was 0.84 which means that the three variables are highly internally consistent, efficiently capturing the underlying effect of the process of modernisation.

The tables below only present the models with significant variables. Hence, the other variables which did not show any significance, either in bivariate analyses or in regression models, are not reported.

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<sup>47</sup> All the three variables, GDP per capita, literacy rates and urban population were highly correlated.

**Table 4.3: Linear regressions for overall suicide rates of India, 2012**

<b>Females &amp; males</b>	<b>Model 1 <math>\beta</math></b>	<b>Model 2 <math>\beta</math></b>	<b>Model 3 <math>\beta</math></b>	<b>Model 4 <math>\beta</math></b>	<b>Model 5 <math>\beta</math></b>	<b>Model 6 B</b>
Hindu pop	0.313*	--	--	0.386**	0.454**	0.343**
South India (ref: East and West India)	0.400**	0.449**	0.424**	0.355**	0.350**	0.347**
North India (ref: East and West India)	-0.412**	-0.331*	-0.400**	-0.386**	-0.393**	-0.429**
Literacy rates	--	0.261*	--	0.340**	0.289*	--
GDP per capita	--	--	0.334*	--	--	--
Unemployment rates	--	--	--	--	0.262*	--
Modernisation scale	--	--	--	--	--	0.300*
<b>Adjusted R-square</b>	0.48**	0.45**	0.48**	0.58**	0.64**	0.56**

\*P<0.05; \*\* P<0.01

Table 4.3 presents the regression of overall suicide rates of India in 2012, upon various independent variables. Hinduism, literacy, south India, unemployment, GDP per capita and modernisation scale have a significant impact at  $p=0.05$  on state-wise suicide rates of India. Also, north India shows a strong negative impact on suicide rates.

This means that all the significant variables identified from bivariate analyses have a significant impact on the suicide rate in regression scenarios as well. Furthermore, unemployment might be having an impact on state-wise suicide rate as well.

From all the tables above, it can be deduced that the process of modernisation is having an impact on suicide rates across India, especially on literate Hindus. Also, more affluent states are more susceptible to suicides as compared to less affluent states. Furthermore, the literate Hindu population of south India is much more susceptible to suicides than the same population of north India.<sup>48</sup> Additionally, Model 5 highlights the

<sup>48</sup> South India is much more affluent as compared to north India in terms of per capita income, urbanisation rates and literacy rates (Census of India, 2011; Paul and Sridhar, 2013).

impact of unemployment on suicide rates. This means that while unemployment rates are insignificant on their own, they still *may* have a small impact on state-wise suicide rates.

**Table 4.4: Linear regressions for female suicide rates of India, 2011** <sup>49</sup>

<b>Females</b>	<b>Model 1 <math>\beta</math></b>	<b>Model 2 B</b>
Hindu pop	0.567**	0.568**
South India (ref: East and West India)	0.162	0.208
North India (ref: East and West India)	-0.393**	-0.445**
Female literacy rates	0.274*	--
Female unemployment rates	--	0.307*
<b>Adjusted R-square</b>	0.44**	0.46**

\*P<0.05; \*\* P<0.01

Table 4.4 presents the regression of overall female suicide rates of India in 2011, upon various independent variables. Hinduism and north India consistently show a significant impact on the female suicide rates across India. Also, unemployment is significant for female suicide rates. South India, however, is shown to be insignificant for female suicide rates.<sup>50</sup>

<sup>49</sup> Since the latest available gender-wise population statistics of the Indian states are from 2011, NCRB data of 2011 was used to calculate female and male suicides.

<sup>50</sup> None of the other factors were found to be significant for female suicide rates. Moreover, only gender-wise literacy and unemployment rates were available (while gender-wise workforce participation rates were available, they did not show significance with gender-wise suicide rates).

**Table 4.5: Linear regressions for male suicide rates of India, 2011**

<b>Males</b>	<b>Model 1 <math>\beta</math></b>	<b>Model 2 <math>\beta</math></b>
Hindu pop	0.278*	0.322*
South India (ref: East and West India)	0.490**	0.520**
North India (ref: East and West India)	-0.306*	-0.333*
Male literacy rates	0.211	--
Male unemployment rates	--	0.156
<b>Adjusted R-square</b>	<b>0.53**</b>	<b>0.50**</b>

\*P<0.05; \*\* P<0.01

Table 4.5 presents the regression of overall male suicide rates of India in 2011, upon various independent variables. Hindu population rates, south India and north India consistently shows a significant impact on the male suicide rates across India. Literacy and unemployment, however, are insignificant for male suicide rates.<sup>51</sup>

### **Main findings from the quantitative analysis**

According to bivariate analyses and linear regression modelling conducted above, the following findings can be deduced:

- The independent variables of literacy, Hinduism and GDP per capita appear to be associated with higher incidence of suicide.
- The region of south India has a strong positive impact on suicide rates while the region of north India has a strong negative impact on suicide rates.
- The population most susceptible to suicide seems to be the literate Hindu population from affluent states.
- Female suicides have a strong association with Hinduism. Also, unemployment rates may have an impact on female as well as overall suicides.

This chapter's findings indicate positive associations between some of the factors associated with modernisation and social change and state-wise suicide rates of India. I shall further explore these findings in the next chapter, concentrating on developing better explanations

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<sup>51</sup> None of the other factors were found to be significant for male suicide rates.

for the relationship between suicide and Hinduism, literacy, GDP, gender, geography and unemployment.

## **Chapter 5—Social causes of suicide: Qualitative analysis**

### **Introduction**

In the previous chapter, I established that the following social factors are having an impact on state-wise suicide rates of India: literacy; religion (Hinduism) and GDP per capita. Also, unemployment might have a weak impact on suicide rates. Furthermore, the southern states of India have higher suicide rates while the northern states have lower suicide rates. The purpose of this chapter is to further explore the impact of these social factors on suicide rates through the analysis of in-depth interviews.

In-depth interviews were conducted with six suicide experts. The interview questions concentrated on the social factors found to be having a significant impact on state-wise suicide rates of India in the last chapter. The questions also concentrated on factors which could not be investigated through statistical techniques such as the extent of mental illness in India and the broad impact of economic liberalisation and the changing gender roles of women on suicide rates. The interviewees were also asked about the impact of any other factors that neither the literature review nor the statistical correlations investigated. However, most of the experts' opinions were found to be associated with the identified social factors of this study.

This chapter discusses eight broad themes. As per the thematic analysis of in-depth interviews, which focused on the results of bivariate analysis and linear regression analysis and other salient social factors identified in Chapter 2, the following eight themes are identified as important for explaining the social causes behind suicides in Kerala and India. These are: mental illness; modernisation and rapidity of social change; religion; literacy; female suicides; south India, unemployment and economic liberalisation.

### **Theme 1—Mental illness: Psychological illness expressed as physical pain**

According to statistics, the presence of mental illness is higher among suicide victims in the western countries relative to non-western countries (Vijayakumar 2007; Rane and Nadkarni, 2014). Indian expert 2 highlighted that psychological autopsies<sup>52</sup> conducted in India support this claim.

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<sup>52</sup>However, psychological autopsy has been critiqued for its flawed nature (Hjelmeland et al. 2012).



*See, we do psychological autopsies. Studies in western world, you find that almost 90% of them have some diagnosable mental health disorder but we don't find that, not only in India but even in China. We find that maybe 50-60% of them have a psychological disorder but 40% do not have a psychological disorder. Psychological disorders do play a part but not as significantly as the western world. (Indian expert 2)*

However, Indian expert 1 suggests that this disparity might be because the *psychological* symptoms of suicide victims in India are sometimes expressed as *somatic* symptoms.

*I mean if I have depression, if I admit that I have depression, then my sister can't get married. The social stigma is still there. People don't describe...in terms of psychiatric or psychological terms but in terms of physical pain. You get this funny thing for instance— "people died of stomach pain". Well, he drank pesticide— "of course he had stomach pain". It represents the fact that psychological symptoms appear as physical symptoms. So let's make a guess, 40% maybe of suicides have some kind of mental illness component in India. (Indian expert 1)*

The statement above potentially supports the claims of suicide under-reporting in India. For example, Sainath (2001) notes that many of the farmer suicide cases in Anantapur district (Andhra Pradesh) were reported by the police as deaths due to 'stomach pain'. The police reports stated: "the man (or woman) had severe stomach-ache. Unable to bear the pain, he (or she) swallowed pesticide in despair". Sainath (2001) argues that these farmer suicides were due to the economic distress of farmers and not 'stomach pains'. Mayer (2011) accounts for this by suggesting that in India, like in many other countries, symptoms of physical pain might be hidden manifestations of undiagnosed mental illnesses. Still, mental illnesses might themselves be a consequence of wider social problems in India. Indian expert 3 suggests:

*A lot of it is about social makeup or social pressures. And I think the other big issue in India is the sort of academic performance and pushing and that strain on young people and when you set those academic targets so high and the pressure from*

*families to push their one son or one daughter, usually son into achieving higher academic targets so they can sustain the whole family. So there is a lot of social unease I think in various aspects of the Indian society that affects this [suicide rates].*  
(Indian expert 3)

Indeed, the expert's comments seem very relevant given the high number of student suicides in India (Lakshmi, 2016). And while student suicide is a major problem among both the regions, the global North and the global South (Durisch, 2014), the reasons for student suicides between these two regions vary significantly (Jiandong et al., 2011). For example, the presence of a psychiatric disorder is cited as the main cause behind student suicides in the United States while higher academic stress is cited as the major reason behind student suicides in India (Schwartz, 2006; Mayer, 2011). In fact, according to Jiandong et al. (2011), students from the global South usually face "higher academic burden, lower satisfaction regarding their academic performance and higher expectations" (p.534) as compared to the students from the global North.

However, some of the student suicides in India are associated with oppression and inequality rather than academic burden. For example, a Dalit<sup>53</sup> PhD student studying in University of Hyderabad, Rohith Vemula, recently committed suicide (on 17th January 2016). Ever since his suicide, there has been a spate of protests in Hyderabad as well as in other parts of India about the discriminatory treatment of lower caste students in government universities. Whenever a student, especially one belonging to a lower caste, commits suicide, it becomes a source of caste politics where the victim is usually hailed as a martyr.<sup>54</sup> For example, Rahul Gandhi (Vice President of the Congress party) joined the protest in Hyderabad and stated, "Mr. Modi (current Prime Minister belonging to the B.J.P.) is trying to crush the spirit of Indian youngsters" (Singh, 2016). University student suicides usually bring the lower caste oppression into debate. They also ignite the debate over the

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<sup>53</sup> Dalit people belong to a lower caste and regularly face inequality and oppression in India.

<sup>54</sup> See Teltumbde (2016) for more on Rohith Vemula's and Dalit student suicides.

quota system that assigns a percentage of admissions to lower caste students in government colleges.<sup>55</sup>

Mental illness is not popularly acknowledged as a primary cause for committing suicide in India. And it can be ascribed to the social stigma attached to mental illness (Shrivastava et al., 2012). So the extent of the role of mental illness involved in committing suicide in India remains contentious. However, as I shall now discuss, social issues still remain pertinent in explaining high suicide rates of Kerala and India. And to that end, I shall start with the evidence for a positive relationship between rapid social change and suicide rates in India.

### **Theme 2—More than “modernisation”: The rapidity of social change**

In the quantitative analysis, proxy variables for modernisation including literacy rates, GDP per capita and the ‘modernisation scale’ (a combination of literacy rates, GDP per capita and urban population rates) were found to be positively correlated with suicide rates across India. Now, Anthony Giddens (1990) describes the rapidity of change as one of three major elements of modernity (besides scope of change and the intrinsic nature of modern institutions). As Giddens (1990) states: “traditional civilisations may have been considerably more dynamic than other pre-modern systems, but the rapidity of change in conditions of modernity is extreme” (p.6). Indian expert 2 suggests the same for contemporary Indian society:

*I think, more than modernisation, the rapidity of change is always...see, you know the changes are happening so rapidly so the role of men and women and elders in the family, everything is changing. There is a constant pressure to adapt and change.*  
(Indian expert 2)

Indian expert 1 simply suggests:

*There is social change for sure in India.* (Indian expert 1)

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<sup>55</sup> It should be noted here that not all the students committing suicides in India belong to a lower caste. However, it is the lower caste student suicides that attract most attention. Also, suicides committed by young students studying to secure a spot in top universities are usually ascribed to the relentless academic pressure in India (Lakshmi, 2016).

The Kerala experts also associated suicide rates of Kerala with rapid social change:

*Kerala developed fast. There is a problem with the family structure; previously it was a joint family system which transformed to a nuclear family system. Fast development in Kerala produced crisis and stress among most of the individuals. Kerala paid for fast development. (Kerala expert 2)*

*It may be rather than the modernisation, the rapidness of the transition or change. Because I think the cultural background is based on the value systems. If the value system itself is not definite and individuals have difficulty as in which way to go, this conflict can contribute to suicide rates. (Kerala expert 3)*

Now, according to Durkheim (1897), anomic suicides are a defining feature of modern societies. And the definition of Durkheim's anomie essentially maps to the comments of Kerala expert 3, who mentions an indefinite value system. However, before I further consider the role of anomic suicides in India, the relationship between modernisation and rapid social change needs to be delineated. This is because the experts seem to agree on a positive relationship between rapidity of social change and suicide rates more than modernisation itself.

Modernisation is a complicated, multi-dimensional concept (Gillen and Ghosh, 2007).<sup>56</sup> But it consists of three primary features namely; industrialisation, urbanisation and secularisation (Stack, 1997). However, interviewees focused on *rapid social change* which is one of the most important features of modernisation (Giddens, 1990). Now, if we look at this study's quantitative analyses, three 'proxy' variables for modernisation mentioned above indicate a significant impact on the state-wise suicide rates. Also, the region of south India which is used as a 'proxy' for modernisation had a significant impact on suicide rates. These proxy variables are associated with social change and industrialisation. However,

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<sup>56</sup> As suggested by Gillen and Ghosh (2007), "modernisation is an elusive concept, with a wide and shifting range of meanings" (p.52).

other proxy variables for modernisation such as urban population rates did not show significance on suicide rates.<sup>57</sup>

Makinen (2009) notes that many of the common indicators of modernisation such as industrialisation, urbanisation and education, which indicated a positive relationship with suicide rates in the 19<sup>th</sup> century are no longer strongly related with suicides in contemporary times. Stack (1997) explains this argument by stating that the indicators of modernisation reach “a ceiling where their rate of change begins to approach zero” (p.134), and hence many of the indicators might lose their value after a certain period of time. In the literature, there are many studies that have supported as well as rejected a positive relationship between modernisation and suicide (Makinen, 2009).

But studies conducted specifically in the global South (Vijayakumar et al., 2005), including India (Chauhan, 1984; Mayer, 2011), have found that education levels are associated with rising suicide rates, while the indicators of urbanisation and industrialisation were not significant. Indeed, this study’s bivariate analyses suggest the same. So education levels remain significant in explaining suicide rates. Additionally, GDP per capita levels were also found to be significant. Furthermore, the *rapidity* of social change, as suggested by the interviewees, is vital in explaining the high suicide rates of Kerala and India. Hence, it can be stated that the process of modernisation, at least in the global South, still remains pertinent in explaining suicide rates. But before I turn to specific factors of modernisation, I shall explore the effect of Hinduism on suicide rates of India, which is also relevant to modernisation.

### **Theme 3—Religion: The continuing role of Hinduism on Hindu suicides**

In the quantitative analysis, state-wise Hindu populations were found to be positively correlated with state-wise suicide rates of India. Indian expert 2 explained the overall impact of religion on suicide rates across the globe:

*Definitely, religion has an impact. For example, ‘atheist countries’ have the highest suicide rate and then we have the lowest suicide rate in the Muslim countries. And Christian countries, they have lower rates in Catholics than Protestants. But*

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<sup>57</sup> However, urban population rates were a part of the “modernisation scale” variable which had a significant influence on the overall suicide rates in one of the regression models.

*Buddhists countries have high suicide rates. Hindu countries, India and Nepal have high suicide rates. (Indian expert 2)*

The expert even highlighted the high suicide rates of Hindus living in *other* countries (as a religious minority), confirming the impact of Hinduism on suicide rates:

*Not only in India, Indians who are sizeable minorities like in Fiji, Malaysia, Mauritius also have a high suicide rate. (Indian expert 2)*

Kerala expert 2 also emphasises the role of religion on suicide rates:

*The Malappuram district of Kerala has low suicide rate because majority is Muslims. Islam has a protective role. Religion influences people's attitude. Because Muslims will go to hell if they committed suicide. (Kerala expert 2)*

Indeed, many studies conducted in the past have noted low suicide rates in Islamic countries as compared to other countries in the world that do not follow Islam (Okasha and Okasha, 2009). The general understanding of religion and its effect on suicide is based on one simple proposition: religions that have a tolerating or approving attitude towards suicides tend to have higher suicide rates among their followers. Even in Kerala, Hindus have the highest rate of suicide (Tiwary, 2016). Also, Muslims in general have the lowest rate of suicide among all the religions in India (ibid).

There are many other countries which demonstrate the same pattern when it comes to religious sanctions towards suicides—for example, Confucianism in China (Fei, 2009), the Shinto religion in Japan (Kaneko et al., 2009) and the Maya religion in Mexico (Baquedano, 2009). China, Japan and Mexico (the parts which follow the Maya religion), all have high suicide rates (Baquedano, 2009; WHO, 2012). Conversely, low suicide rates are observed in Middle Eastern countries that follow Islam (Okasha and Okasha, 2009). In fact, according to Thakur (1963), “religion has always been at the root of the causes of suicide in all the countries in all the ages” (p.185). But a question remains: why are religious sanctions towards suicides still affecting contemporary societies that are undergoing processes of secularisation?

Even as societies become more secular, the impact of religious sanctions towards moral codes can remain somewhat intact. This is mainly because the process of secularisation does not necessarily mean the disappearance of religion from societies (Norris and Inglehart, 2004). This especially holds true for India where a modern “stadial consciousness”<sup>58</sup> is absent (Casanova, 2009). Indeed, in explaining the evolution of secular society in the state of Kerala, Matthew (1989) stated: “in the Indian context, wherever secularisation had been witnessed, religion or the religious expressions have not disappeared or weakened but found various new manifestations” (p.6). Nanda (2011) agrees with this statement by asserting: “while the rest of the world might be expected to become less religious with modernity, India will always be religious” (p.6).

I mentioned earlier that Hinduism allowed individuals to commit religious suicide when their ongoing purpose of existence in the society seemed futile. For example, *Sati* was based on the fact that a wife’s role was to ‘serve’ her husband and, when the husband died, the ‘role’ of the wife was also ‘complete’. Hence, it is conceivable that modern Hindu suicides might also stem from the same ideology of ‘ending it’ when the purpose of existence seems futile or conflicted.<sup>59</sup> As aptly noted by Norris and Inglehart (2004), “a society’s religious heritage has a lasting imprint on moral issues, such as attitudes toward abortion and suicide” (p.221).

There is further support for the impact of Hinduism on contemporary suicides in India. The common method of committing suicide among women in medieval India, self-immolation, is *still* a popular method among women to commit suicide in contemporary India (Vijayakumar, 2009). Also, suicides through starvation, suicide pacts or mass suicides

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<sup>58</sup> According to Jose Casanova (2009), the process of secularisation does not necessarily produce the conditions that allow the decline of religion. Rather, the disbelief in religion and the ‘necessity’ of becoming secular stems from a modern “stadial consciousness”, that European societies “inherited from the Enlightenment” era (ibid, p.1054). A modern historical “stadial consciousness” forces a society to an understanding of modernisation where to be religious is to be effectively not “yet fully modern” or primitive (ibid). Furthermore, in Europe, religion is perceived as being intolerant in ways that creates conflict. However, there are conspicuous examples to the contrary i.e. the World Wars or the Holocaust which were products of secular ideologies (ibid, p. 1060). In any case, other than the European societies (mainly Western Europe), which are—or at least pretend to be—more secular than any other society, the absence of a modern “stadial consciousness” explains the presence and even revival of religious beliefs in many societies, even as they become modernised.

<sup>59</sup> For example, rising role conflicts leading to higher suicide rates among young women in India (Mukunth, 2014).

can be observed in modern day India, which resonate with the methods of suicide observed in Hindu history (Thakur, 1963; Vijayakumar, 2009).

Hence, it can be stated here that Hinduism has an impact on suicide rates. However, this observation does not explain the motives behind Hindu suicides in modern India. Surely, the altruistic reasons behind committing suicide in medieval India cannot explain modern Indian suicides. The Indian experts in my study seemed somewhat vague about the understanding of modern 'Hindu' suicides. This can be attributed to the fact that there is almost no research conducted on Hinduism and suicide in India. For example, Indian experts 1 and 3 suggested the following:

*Definitely there is some religious connection which needs unpacking.* (Indian expert 1)

*We don't know why, but they do have high suicide rate, Hindus.* (Indian expert 3)

I mentioned above that India's religiosity (Hinduism in particular) has not been diminished by the ongoing process of modernisation (Nanda, 2011). However, the continuation of religious adherence does not mean that the fabric of religiously obtained social integration has not been disturbed by the process of modernisation (Vijayakumar, 2007; Bansal, 2012). As suggested by Vijayakumar (2009), "rapid urbanisation, industrialisation and emerging family systems are resulting in social upheaval and distress" (p.768). Furthermore, the process of modernisation has led to increasing individualism in India. For example, Bansal (2012) states that, "the traditional familial-spiritual Indian self has to contend with strong individualising changes occurring with modernisation" (p.27). So while religion has found new manifestations within modernising India (Nanda, 2011), it has not 'stopped' the process of modernisation which is producing social change (Vijayakumar, 2009; Mayer, 2011; Bansal, 2012). As noted by Mayer (2011), "India has been shaken by forces of social change" (p.222).

So far we have established two somewhat contrary findings: first, secularisation in India has not resulted in the collapse of religion—Hinduism still has an impact on suicide rates. Second, despite the continued presence of religion, India is still going through the process of modernisation and social change which is having an impact on the traditional ways of living. So, we have religion on one end of the spectrum, and modernisation on the



other. But is it possible that the differences between the religious and the modern are producing a state of conflict, leading to increased suicidality and suicide rates? I shall start with literacy to explain the conflict between traditional and modern.

#### **Theme 4—The impact of literacy on suicide rates of Kerala**

In the quantitative analysis, literacy rates were positively correlated with state-wise suicide rates. Mayer (2011) also found that a 10% increase in literacy brought a 5% increase in suicide rates of Indian states.<sup>60</sup> The relationship between literacy and suicides seems more obvious when we look at the states of Kerala and Bihar. Kerala has the highest literacy rate as well as one of the highest suicide rates in India. Conversely, Bihar has the lowest suicide rate and also the lowest literacy rate in India. However, Kerala expert 1 suggested that there is no relationship between high literacy and high suicide rates in Kerala.

*No relation between literacy and suicide. No. (Kerala expert 1)*

Kerala expert 2 also suggested the same while also pointing out that increasing literacy does not mean increasing education levels.

*No I don't think there is a direct connection between the two. The assessment of literacy is based on the parameter that people can read and write that's all. So just because Kerala has highest literacy doesn't mean everybody gets higher education. So you cannot link high literacy to high suicide rate. That is not correct. (Kerala expert 2)*

While Kerala expert 2 might be correct in pointing out the generally ill-conceived relationship between high literacy rate and higher education level, the impact of literacy on the suicide rate does not depend on the number of highly educated citizens but rather on *general* education rates. As stated by Durkheim (2006{1897}), "a state of higher education is a poor criterion as it would only reveal what is happening in a limited section of society, popular and general education is a surer indication" (p.170). Interestingly, while Kerala

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<sup>60</sup> Mayer (2011) regressed suicide rates of the year 1997 on the male literacy rates of the year 1991 for 14 major states of India.

experts denied a direct relationship between literacy and suicides, at the same time, they suggested how suicides can be associated with literacy:

*Lot of stress was given on education. Education and health were given a lot of importance by the government spending 40% of the total GDP on the two. Women education was also very important. But the problem is the other side of development. People started having posh lifestyles and started living beyond their means. Also educated unemployment went up. Resources are limited but expectations are high.*  
(Kerala expert 2)

Indian expert 2 also provided a similar explanation.

*I think probably the more educated you are the more expectations you have from life and when those expectations are not met, people tend to get depressed.* (Indian expert 2)

The comments of the two experts are very similar in the sense that both relate increasing literacy with increasing *expectations*. Does this mean that literacy *itself* does not have an impact on suicide rates? Indeed, Durkheim (2006{1897}) suggested that, “it is not knowledge that determines this [suicide] increase—knowledge is innocent and nothing is more unjust than to accuse it” (p.176). However, Durkheim saw increasing literacy as a sign of loosening of religious bonds, which according to him was one of the primary causes behind increasing suicide rates of societies.

The rise of literacy (an indicator of modernisation) has had an impact on religious bonds in India. For example, there is a rise in the nuclear family system and a move away from the traditional joint family system (Chadda and Deb, 2013). There is also a rise in individualism (Bansal, 2012) and individual decision making (Mukunth, 2014). Durkheim (1897) was right in stating that knowledge *itself* is innocent; however, knowledge has an impact on individuals thinking of the self and the society. Hence, it can be established here that while religion has not disappeared from Indian society, with rising modernisation, it is certainly losing its regulatory power over individuals in the sense that individuals are breaking away from old traditional norms. Therefore, this dual presence of the sacred and

the secular is forcing a clash between the traditional and the modern. And to explain the impact of this clash on suicide rates at a societal level, I shall further investigate the relationship between increasing literacy and increasing *expectations*, by looking at female suicides.

### **Theme 5—High female suicides and increasing role conflicts**

While there was no bivariate correlation found between female literacy and female suicide rates (see Appendix 5), in the regression analysis, female suicide rates were found to be correlated with female literacy rates. And according to the Indian experts, increasing female literacy rates are linked to high female suicide rates:

*I think the real change has been women's education. It seems to me the real change has been the whole change in the idea of what people's roles are and what the expectations are especially of women and the gender roles generally. The clash between modern and traditional female roles. Crisis for women is crisis about gender roles and that explains to me why suicide rates for women are much higher in south India than in north India because women literacy has lagged so much in north India. (Indian expert 1)*

*Yeah, the changing gender roles I think is more about economic and education opportunities for women and with that the expectations from women also has increased. (Indian expert 2)*

Indian expert 3 explained how changing gender roles of women are clashing with patriarchal Indian society:

*I mean many women suffer very tough social problems, the difficult mother-in-law, the father-in-law, a husband who drinks and the status they have in society. For women it's the whole role and status in the society. Even the most educated women, I have met several of them who have PhD's who end up with that sort of status at home. (Indian expert 3)*

Similar to the previous section, experts here also focus on the *indirect* impact of literacy on female suicides. With increasing female literacy rates (an indicator of modernisation), the *expectation* of greater gender equality is arguably becoming a possibility in India. However, traditional patriarchy still remains the norm (Kimuna et al., 2013). As noted by Bhaskaran (2011), “literacy and education have not succeeded in generating social transformation or questioning entrenched patriarchal values, customs and norms” (p.76). Hence, the social change resulting from modernisation is possibly creating role conflict or *anomie* among Indian women. But Durkheim’s (1897) *anomie* was an imbalance between the need for regulation and the lack of regulation in a rapidly changing society. However, the *anomie* resulting from role conflicts among Indian women is more complicated than simply the absence of social regulation. Therefore, to explain this further, I shall turn to Robert Merton’s (1938) theory of *anomie*. Merton (1938) explains that when a society puts a high value on goal achievement for all social classes but does not offer the institutional means for all the classes to achieve those goals, *anomie* ensues.<sup>61</sup> For women in India, with increasing modernisation, *goal achievement* can be seen as gender equality. And gender equality must have a *high value* as the traditional patriarchal norms have been oppressing women for centuries now.

However, the continuing patriarchy in India suggests that the *means* are simply not available for women to achieve gender equality. And the argument regarding the absence of *means* for *goal achievement* goes beyond women as well. The high suicide rates of south India, which is arguably the most modernised region of India, can be used to illustrate further impact of the conflict arising between *goal achievement* and absence of *means*.

### **Theme 6—High suicide rates of south India (The Kerala Conundrum)**

In the quantitative analysis, south Indian states were highly correlated with state-wise suicide rates of India.<sup>62</sup> Indian expert 1 suggests two possible causes for this: first, the internal and external channelling of aggression and second, the under-reporting of suicides being more wide-spread among the north Indian states as compared to south Indian states:

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<sup>61</sup> Merton (1938) also noted that a certain amount of *anomie* was a ‘normal’ state of democratic societies as democracy is based on the principle of equality of opportunity.

<sup>62</sup> The mean suicide rate of south India was found to be 24 per 100,000 population which is more than two times the average suicide rate of India.

*Simplest psychology thing is where you channel aggression. You channel it outward or inward. What seems to happen in hierarchal or traditional societies is that you channel it outward and as you become, I don't know, let's call it modern for lack of a better word, as you become literate, you hold yourself responsible rather than others. Also it might be the case that NCRB statistics are better in south India than north India. (Indian expert 1)*

In order to further test the internal and external channelling theory, a bivariate analysis was conducted between north Indian states and state-wise murder rates of India as murder is an obvious example of external aggression. However, the analysis did *not* demonstrate a significant relationship between the two factors (see Appendix 6).

On under-reporting as a reason for north-south suicide rate differences, Indian expert 2 suggests that the suicide *patterns* of south Indian and north Indian regions remain somewhat the same, even after accounting for under-reporting:

*If you read the Lancet article by Vikram Patel, it is a representative study of all deaths in India, it was not primarily meant to address suicide but for all deaths in India, so a representative study of all the states including the north-east India. Even that study found a similar pattern. Yes, there was underreporting around 30% for females and 25% for males, but the patterns remain the same. There is underreporting of suicide but the pattern remained the same even in the representative study. (Indian expert 2)*

There are indeed many studies highlighting that while there is under-reporting of suicide in both regions, south India *still* has much higher suicide rates than north India. For example, studies conducted in Andhra Pradesh (Joshi et al., 2015), Tamil Nadu (Joseph et al., 2003; Gajalakshmi and Peto, 2007) and Kerala (Soman et al., 2009) found suicide rates of specific parts of these states to be much higher than the official NCRB statistics. Studies conducted in Uttar Pradesh (Kumar et al., 2013) and Haryana (Mohanty et al., 2007) also found suicide rates to be higher than the NCRB statistics but to a much lesser extent than the south Indian states. So what are the reasons behind higher suicide rates of south Indian states? Indian

experts suggest that higher literacy rate is one of the strongest factors that explain the high suicide rate of south Indian states. Indian expert 2 suggests:

*We are trying to look at various factors on why south India has higher suicide rates, only one factor which came up, which was consistent was it was correlated with education. (Indian expert 2)*

Indian expert 1 suggests that with increasing literacy in north India, suicide rates will increase as well.

*You know, with increasing literacy and modernisation; suicide rates will also come to north India. (Indian expert 1)*

With increasing literacy in India, upward social mobility is arguably becoming a *possibility* for all genders, classes and castes. Hence, goal *achievement*, which can range from gender equality to employment opportunities to monetary success, is also becoming more feasible. However, the institutional *means* are simply not available to accommodate such goals.

The strong correlation between GDP per capita and suicide rates can be used as an example here. Durkheim (2006{1897}), somewhat crudely, stated: “if mediocrity is all around us, nothing excites envy” (p.278). With increasing GDP, living standards have increased. However, this increase in GDP does not mean an equal distribution of wealth across the population (Mander, 2016). In fact, income inequality in India has substantially increased in recent years (Pal and Ghosh, 2007; Chakravarty, 2016). As stated by Hiro (2016), “increased GDP growth has come at the cost of ever-widening inequality”. So, actual wealth has increased for a few, however, it has raised *expectations* of many. As aptly stated by Kerala expert 2, reflecting on the increase of expectations in Kerala:

*They [people of Kerala] want all the gadgets in the house now. Most of them live beyond their income. Only around 25% of people in Kerala with gulf money<sup>63</sup> can*

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<sup>63</sup> A significant number of Keralites work in the gulf region. In fact, Kerala’s economy is heavily dependent on the remittances received from the gulf countries (Viju, 2015).

*afford such lifestyles. More than half of the families have these problems. (Kerala expert 2)*

The comment essentially points out the gap between *goal achievement* and *means* for most of the population in Kerala. Another example of this gap is the widespread unemployment. Unemployment rates of India, especially female unemployment rates, remain exceptionally high despite the rise of female literacy in India (Rustagi, 2013). Kerala's situation is an example where female literacy is extremely high while the female workforce participation rate is particularly low (Census of India, 2011). Kerala's female suicide rates are also high (12.0) (Census of India, 2011; NCRB, 2012). Hence, the gap between increasing modern *goal achievement* and the reality is arguably producing a state of conflict or *anomie* in Kerala and India. And to further delineate this gap, I shall discuss the impact of unemployment in more detail.

### **Theme 7—The impact of unemployment and underemployment on suicides**

Indian expert 2 suggested a weak relationship between unemployment and suicide:

*People have found that there is some association with unemployment, not a very strong association, but the unemployment rate and suicide rate, there seems to be some correlation. (Indian expert 2)*

The bivariate analysis in this study did not show any significant correlation between unemployment and suicide rates of India. However, in the regression analyses, in two models, unemployment was found to be significant with overall and with female suicide rates.

The significance of unemployment on female suicide rates can be explained as follows: first, it is conceivable that the *value* of employment for women is higher than it is for men as employment might be seen as a means to achieve emancipation from traditional sub-ordinate roles. Second, unemployed but literate women might have more difficulty in conforming to the traditional roles than illiterate women. As Mitra and Singh (2007) discussing the high female suicide rates of Kerala note, "educated women in Kerala are independent and unwilling to accept the traditional dominance of men in all spheres of

life”. A third might be that while the education levels of women have improved (Census of India, 2011), the rates of female workforce participation remain “extremely low” (Rustagi, 2013, p .217). The reasons for low female workforce participation in India usually include inequality and discrimination that women face in the labour market (International Labour Organization, 2013). However, when it comes to Kerala, more than unemployment, experts emphasise *educated* unemployment and *underemployment*.

*See, Kerala is good in preparing an individual with education but not with providing opportunities. I think under-employment is much more important than unemployment. When you are attaining higher education levels, your aspiration level is higher but when that doesn't happen frustration starts. There are postgraduates in Kerala working as bus conductors. (Kerala expert 3)*

*Unemployment is also another area of concern, educated unemployment in particular. (Kerala expert 2)*

As stated earlier, Kerala has the highest literacy rate in India (Census of India, 2011) but also one of the highest unemployment rates in India (Economic Survey of India, 2012-2013). Murphy Halliburton (1998) confirms that the huge gap between aspirations generated due to high literacy level and the lack of employment opportunities in Kerala might be a leading cause for high suicide rates in the state. He also notes widespread underemployment among educated adults in Kerala.

However, the problems of unemployment and underemployment are cause for major concern—not only in Kerala—but among young people all over India (Rajadhyaksha, 2013). For example, more than 85% of Indian youth is under-employed, working in the informal sector with very low levels of pay and high job insecurity (ibid).<sup>64</sup> As pointed out by Indian expert 1:

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<sup>64</sup> An example of job crisis in India comes from the city of Bhopal (Madhya Pradesh). Over 900,000 individuals applied for 14,000 police constable jobs in Bhopal including graduates, post graduates and even PhD's while the academic requirement for a police constable job is the completion of higher secondary school (NDTV, 2016).



*The levels of youth suicide in India are catastrophic! But they are invisible. Then if you compare Indian youth suicide to worldwide levels, they are very very high, shocking, frightening.* (Indian expert 1)

Indeed, youth suicide rates of India are extremely high (Mayer, 2011; Mukunth, 2014). In fact, India had the highest youth suicide rate in the world (the age group of 15-29 years) in 2012 (Kapur and Mullen, 2014). Hence, two conclusions can be noted here. First, young people in India are probably experiencing the highest degree of anomie among all age cohorts, related to the combined effect of high unemployment and high literacy. Second, women are more affected by this combined effect than men, as suggested by regression analysis. This finding seems especially true for young women, as suicide is now the leading of death among young women in India (Clarke, 2013). Furthermore, the age group of 15-29 years produces the highest number of female suicides in India (NCRB, 2012). These findings suggest that *anomie* arising from the gap between *goal achievement* and the *means* is particularly important in explaining the high youth suicide rates of India.

### **Theme 8—The impact of economic liberalisation on suicide rates**

Some scholars have pointed out that economic liberalisation has led to higher rates of unemployment in India (Pal and Ghosh, 2007; Chakravarty, 2016). For example, Parry (2012) researching the urban suicide rates of Chhattisgarh noted that increasing suicide rates in the region might be a result of growing unemployment. He attributes this growing unemployment to the downsizing of public sector jobs since economic liberalisation.

Various studies have highlighted both the ill effects of economic liberalisation in India including rising unemployment as well as positive effects such as growing GDP (Pal and Ghosh, 2007; Shastri et al., 2010; Thiel, 2011; Agrawal, 2013; Kousadikar and Singh, 2013; Charkavarty, 2016). For example, Chakravarty (2016) stated that India has witnessed an increase in the size of the middle class and a reduction in overall poverty since 1990. However, some social problems have also been on the rise since economic liberalisation (ibid). Pal and Ghosh (2007) note that the employment increase in the IT and the service sector has only benefited a very small share of population, and that overall unemployment in India has increased especially in the rural areas since liberalisation. As stated by Ponnudurai (2015): “in the current scenario in India, employment opportunities are

shrinking”. Furthermore, according to a recent report of International Monetary Fund (IMF), India has one of the highest levels of income inequality in the Asia-Pacific region—only behind China and Papua New Guinea (Chakravarty, 2016). According to the report, income inequality in India has tremendously increased since 1990 (ibid).

### ***The impact of economic liberalisation on farmer suicides***

Various studies suggest that farmer suicides in India have radically increased since economic liberalisation (Mohanakumar and Sharma, 2006; Sridhar, 2006; Jeromi, 2007; Mitra and Shroff, 2007; Mukherjee, 2009; Sahay, 2010; Sadanandan, 2014). This is confirmed by two experts:

*Local policies affect people a lot, such as the agricultural reform of the 1990s.*

*Farmers are not getting enough money. They always work on loans and if any calamity strikes, they lose everything. (Kerala expert 2)*

*All these areas changed over to cash crops like cotton and chilli which require a lot of pesticides and feed you know and the farmers are traditionally not trained to grow these brands so they are at the mercy of people who provide the seeds, pesticides and the fertilizers. And not only that, the usual money lender from whom they will take loans have been replaced by this person who also supplies the seeds, fertilizers and takes back your produce as one third of your crop you know so that also adds to the issue [suicide]. (Indian expert 2)*

Agriculture sector is the main source of income for two-thirds of Indian population, with 59% of the total population’s livelihood dependent on agriculture activities (Sadanandan, 2014). However, in most of the Indian states, the total agricultural output has decreased since economic liberalisation (Bhalla and Singh, 2009). In fact, the contribution share of the agriculture sector in total GDP of India went down from 33% in 1990-91 to 14% in 2011-12 (Thakur, 2012).

But, of course, economic liberalisation cannot possibly be held solely responsible for increasing farmer suicides. For example, there are factors unrelated to liberalisation such as droughts or personal issues (substance abuse, etc.) which could contribute to suicides

among farmers (Bhalla and Sharma, 1998). Nevertheless, it can be hypothesised here that economic liberalisation has definitely had an impact on farmer suicides in India. However, other than farmer suicides, the experts remained skeptical regarding the impact of economic liberalisation on overall suicide rates.

*If you look at what was done in India, it was very gentle, very moderate, I would have thought it had relatively little impact. For example, there were three government owned bakeries called "Modern Bakery" in New Delhi and it took 6 years and 3 governments to privatise it. Somethings went away of course, some subsidies. But my interpretation is it's a way for people who were opposed to the liberalisation of the 1990s to criticise it now. So I have mixed feelings about liberalisation. (Indian expert 1)*

*I think change was inevitable, and I don't think we should....see the middle class has expanded and people below the poverty line have reduced so I wouldn't say that it [economic liberalisation] has impacted suicide rates. (Indian expert 2)*

Indeed, after economic liberalisation, India opted for partial and a gradual privatisation instead of rapid and complete privatisation (Ahluwalia, 2002; Kousadikar and Singh, 2013). Also, the middle class has expanded and poverty rates have reduced since liberalisation (Chakravarty, 2016). However, according to Palit and Singh (2011), the negative effects of economic liberalisation on suicides other than farmers are understated. An alarming, hidden fact is that the suicides listed under economic factors in the NCRB statistics have doubled from 1990-2009 (ibid). Palit and Singh (2011) found that in the prosperous states, bankruptcy and sudden change in economic status have increased while in the poorer states, reasons related to career problems and unemployment have increased. Palit and Singh (2011) state: "clearly, suicides in India precipitated by economic factors are not confined to farmers alone, but have a more broad-based dimension" (p.2).

### ***The impact of economic liberalisation on overall suicide rates***

In the quantitative analysis, two factors which can be associated with economic liberalisation were found to be positively correlated with suicide rates: GDP per capita and

unemployment rates (although the evidence for the effect of unemployment was weak). GDP per capita has seen an upward trend since economic liberalisation (Pal and Ghosh, 2007; Agrawal, 2013). However, as mentioned earlier, it has only benefited a small share of the population. Furthermore, rural unemployment has increased since liberalisation (Pal and Ghosh, 2007). As stated by Pal and Ghosh (2007): “open unemployment increased in most part of the country, and the rate of growth of rural employment hit an all time low” (p.25).<sup>65</sup> And suicide rates of India have also seen an upward trend since economic liberalisation (NCRB, 1990-2013). For example, between the years 1990-2013, female suicide rates saw an increase of 23.3 percent while male suicide rates increased by 63.5 percent (Swanhuyser, 2016). Kerala’s suicide rates also reached a peak of 30.8 per 100,000 population in 2002.<sup>66</sup> In fact, many countries from the global South have seen a surge in suicide rates since the introduction of free market economies (Sharma et al., 2007; Apter et al., 2009). As noted by Sharma et al. (2007), “what appears to be common in the countries that had increasing suicide rates is the socio-cultural upheaval brought about by changes in the political and economic system leading to free markets and open society” (p.322). So how can we explain the surge of suicides since economic liberalisation?

According to Durkheim (2006{1897}, p.280-281), the state of anomie is a constant feature of a free market economy. However, Messner and Rosenfeld (1997) developed this hypothesis further through their “Institutional-Anomie” theory. According to this theory, when the market economy becomes disembedded from other non-economic social institutions, it starts to dominate them, which ultimately leads to the weakening and corruption of all the non-economic social institutions (cited in Thiel, 2011, pp.19-21). While Messner and Rosenfeld’s theory was about the “American Dream”, the core elements of the American Dream including privatisation, materialism, individualism, consumerism and individual pursuit of monetary success through various means (legitimate or otherwise) have started to spread in India as well since economic liberalisation (Thiel, 2011). Moreover,

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<sup>65</sup> Although, Bhalla (2008) notes that total employment scenario has in fact improved post economic liberalisation in India. However, he also states that the quality of employment, especially for the workers in the informal sector which forms a major part of the total Indian workforce, has declined since liberalisation. As stated by Bhalla (2008) : “the quality of employment remains very poor for a major proportion of workers and the conditions of work seem to have *deteriorated* in terms of social security and other amenities” (p.13).

<sup>66</sup> Suicide rates of Kerala have shown a slight downward pattern in recent years possibly because of the suicide prevention efforts of the state.

while public sector jobs have been downsized since liberalisation, private sector jobs have not only increased but also become extremely competitive and goal oriented (ibid).

According to Thiel (2011), the social problems in India which have emerged since economic liberalisation including growing corruption, inequality and suicides can be “viewed from the anomie lens” (p.24). The sudden change in the Indian economy through liberalisation has arguably opened up various new avenues for the free pursuit of material wealth and success. This can be referred to as an emerging ‘Indian Dream’, with its core lying within an individual’s relentless pursuit for success.

Hence, *goal achievement*, which we discussed earlier, is not only becoming a possibility in India, it is becoming a priority as well because of the promises of an open market. However, as it stands, the open market of India is not particularly accommodating of *goal achievement*, which leads to *anomie*. For example, India’s unemployment rates (especially among the more literate) and poverty rates (despite reduction in recent years) still remain high (Rukmini, 2015; Narayan and Murgai, 2016). Moreover, far from regulating society, non-economic institutions might be reinforcing anomic conditions as they are becoming corrupted by the market economy.

## Chapter 6—Conclusion

This thesis set out to explore the relationship between rapid social change and high suicide rates of Kerala and—more generally—India. This was accomplished through investigating the effects of modernisation on three specific social spheres namely: religious values, changing gender roles of women, and the economy (i.e. economic liberalisation). These specific issues were discussed with reference to Durkheim’s suicide theory. However, instead of simply ‘fitting’ Durkheim’s theory into the Indian context, an Indian perspective on Durkheim’s suicide theory was developed drawing inspiration from Raewyn Connell’s ‘Southern Theory’ arguments to further delineate the differences between the patterns and causes of suicide in India and the global north.

Notwithstanding some conspicuous differences that the study found in the patterns and causes of suicide between India and the global North, two of Durkheim’s suicide categories—anomic and altruistic suicide—helped explain contemporary Indian suicides. Also, Merton’s concept of anomie and Messner and Rosenfeld’s theory of “Institutional-Anomie” helped further explain high suicide rates in Kerala and India.

There are two major findings of this thesis. Firstly, the process of modernisation has created a clash between traditional and modern ways of living in India. Religion has not disappeared from society because the process of secularisation in India is different than that of the countries with the development of a modern “stadial consciousness” i.e. in Western Europe. However, religion still had to find new manifestations in contemporary India as modernisation has disturbed traditional religious bonds. Nevertheless, because of the continuing presence of religion, religious sanctions towards moral issues such as suicide still remain relevant in modern India. And since Hinduism has a more tolerating attitude towards suicides, especially when compared to other religions such as Islam and Christianity, Hindus are most susceptible to suicides among all the religions in India. However, low rates of suicide among Muslims and Christians do not mean that these religions have not been affected by the ongoing process of modernisation. Instead it underlines the fact that Hindus, because of religious sanctions, may resort to suicide in the case of conflicted existence or under *anomic* conditions much more than Muslims and Christians.

Secondly, the clash between the traditional and the modern at a societal level can be explained through an imbalance between modern *goals* and *means*: the former becoming increasingly desirable while the latter is incapable of fully accommodating the former. Changing gender roles of women as well as economic liberalisation are results of the ongoing process of modernisation in India. With increasing modernisation, gender equality is becoming a desirable *goal* among Indian women. However, the unrelenting existence of deeply rooted patriarchal norms are persistently refusing to provide the *means* to achieve gender equality. Similarly, with the modernisation of Indian economy (i.e. economic liberalisation), upward social mobility in terms of high salaried jobs and job opportunities or the 'Indian dream' is becoming a desirable *goal*. This is because economic liberalisation has opened up the Indian economy to international horizons, which has seemingly produced a plethora of job opportunities. However, barring a rise in employment rates in the IT and service sector benefiting a small share of the total Indian population, the overall unemployment rates have increased since liberalisation. Similarly, the GDP increase has only benefited a few but has raised the expectations of many. Hence, despite giving birth to, and *seemingly* providing the *means* to achieve the 'Indian dream', the economic liberalisation, for all its achievements, has produced conditions of *anomie*.

### **The contribution of the thesis and the road ahead**

To summarise once more: the study has established various findings about suicide rates of India. Firstly, the study statistically highlighted the impact of Hinduism on suicide rates across India. Secondly, it established *anomie* as one of the major reasons behind the high suicide rates of Kerala and India. Thirdly and most importantly, the study highlighted the impact of social factors associated with modernisation and social change namely: increasing literacy, increasing GDP per capita, high unemployment and under-employment and changing gender roles of women on suicide rates of Kerala and India which have largely been ignored in the Indian suicide literature hitherto.

However, the findings of this thesis are tentative. The quantitative data was based on a small state-level sample size while the qualitative findings are also based on a small number of interviews. Also, the evidence for the impact of unemployment on suicide rates is weak. Hence, the study results require confirmation as well as more development through subsequent studies. Nevertheless, results of this study indicate that India is in need of a

strong welfare state. Social policies such as monetary relief funds for financially struggling families, agricultural subsidies for farmers and unemployment benefit schemes are essential. Furthermore, there is an *urgent* need to protect and promote women rights through focused public policies. Moreover, there is a need to introduce a national suicide prevention plan. In fact, the original focus of this thesis was suicide prevention and how social causes should be taken into consideration while developing suicide prevention policies. However, due to the constraints of the word limit, this study could only focus on underlining the significance of social factors in explaining suicide rates. Nevertheless, the next section briefly discusses the need for suicide prevention in India with a specific 'Indian' approach.

### **The need for 'Indian' suicide prevention policies**

One significance of the results of this thesis is their consideration in the drafting of suicide prevention policies. Unfortunately, despite the enormity of the problem, there is no national suicide prevention policy in India. Vijayakumar (2009) highlights that India struggles with various health problems such as infectious diseases among many others and hence suicide has a low priority within the health system of India. However, with high suicide rates, India is in obvious need of a national suicide prevention program (ibid). Consequently, there has been some progress towards implementing suicide prevention strategies. For example, after relentless efforts of Non-Governmental Organisations (NGOs), the issue of suicide prevention was included in the redrafted National Mental Health Policy of India (ibid). Also, the government has confirmed its intention to decriminalise attempted suicide in India (Godbole, 2014).

Now, some Indian scholars have suggested that analogous to the west, suicide prevention strategies of India should have their primary focus on mental health issues (for example, Manoranjitham et al., 2005). Consequently, suicide prevention strategies of the west such as restriction of access to lethal means are favoured to be implemented in India as well (Manoranjitham et al., 2005; Vijayakumar, 2010).

However, India should not simply strive to 'copy' such western suicide prevention strategies as western suicides are mostly attributed to mental health issues (Hawton and Heeringen, 2009; Lonnqvist, 2009). As suggested by the results of this study and some studies conducted in the past, suicides in India—as they are likely to be elsewhere, are more



of a complex sociological phenomenon rather than simply a psychological one. Also, given the lack of resources and funding of the Indian health system (Ginneken et al., 2014), imitating costly suicide prevention strategies might not be realistic in the Indian setting. Moreover, suicide prevention efforts of a specific region should be socially and culturally relevant in order to be effective (Vijayakumar, 2004; Burrows and Schlebusch, 2009). Hence, suicide prevention policies in India should be developed in a culturally appropriate and a financially feasible manner.

### **Concluding remarks**

The rapid social change in Kerala can be associated with high social development as well as high suicide rates of the state. *The Kerala Conundrum* can be described as *anomic* conditions produced by the gap between modern expectations and reality. The glaring disparity between literacy rates and employment opportunities in Kerala quintessentially explains this conundrum. As stated by Durkheim (2006{1897}): “no living person can be happy unless his needs are sufficiently well-adjusted to his means, if he demands more than can be provided for him, he will be unable to function without suffering” (p.269).

Kerala, due to many factors associated with its history, has always been a pioneer state of India in terms of social development and social change. Unfortunately, it is also a state where the problems that accompany the process of rapid social change have been very profound such as high suicide rates. While Kerala is somewhat of a unique case in India, it essentially helps mirror similar problems, albeit to a lesser extent, that India is facing associated with the effects of modernisation and rapid social change.

Rising *anomie* is a consequence of rapid social change in modernising India. The old regulatory traditional norms do not exercise the same control over the society like they used to and hence are struggling to regulate individuals. But at the same time, due to the continuing presence of traditional norms despite being unsettled, modern set of values are struggling to penetrate the old set of values and hence are unable to regulate individuals either. That is, modernisation has given birth to modern desires, however, the contemporary Indian society is failing to fully accommodate them.

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## Appendix 1

### Suicide statistics of India—1967-2013, Source: NCRB 1967-2013

Year	India Suicide rate per 100,000 population	Top three reasons (excluding "other causes" and "unknown causes" categories which usually form 40% of the total reasons)	Top three states with highest suicide rates per 100,000 population (excluding Union Territories)	Top three methods (excluding "other" category which usually forms 17-22% of the total methods)	Kerala suicide rate per 100,000 population
1967	7.5	Despair over disease (Disease)- 17.22, Quarrel with in-laws (In-laws)- 9.04, Quarrel with married partner (Partner)- 7.24	West Bengal- 15.72, Tamil Nadu- 14.31, Mysore- 9.89	Drowning-25.25, hanging- 18.75, Poisoning- 16.9	8.82
1968	7.8	Disease- 17.37, In-laws- 8.24, Partner- 6.2	Tamil Nadu- 14.71, Kerala- 14.38, West Bengal- 13.49	Drowning- 23.71, Poisoning- 20.22, Hanging- 19.23	14.38
1969	8.1	Disease- 14.4, Partner- 7.7, In-laws- 7.5	Kerala- 15.4, West Bengal- 12.82, Tamil Nadu- 12.78	Drowning- 21.3, Poison- 21.3, Hanging- 17.8	15.4
1970	8.8	Disease- 14.1, In-laws- 8.6, Partner- 6.3	West Bengal- 15.42, Kerala- 14.75, Tamil Nadu- 13.14	Poisoning- 24.2, Drowning- 20.0, Hanging- 16.4	14.75
1971	7.9	Disease- 18.2, In-laws- 10.2, Partner- 7.4	West Bengal- 17.81, Kerala- 15.55, Tripura- 12.78	Poisoning- 27.5, Hanging- 19.0, Drowning- 17.6	15.5
1972	7.8	Disease- 18.1, In-Laws- 9.7, Partner- 6.4	Kerala- 20.48, Tripura- 16.15, West Bengal- 15.96	Poisoning- 29.5, Drowning- 18.1, Hanging- 18.1	20.48
1973	7.1	Disease- 16.8, In-laws- 10.2, Partner- 6.6	Tripura- 21.77, Kerala- 19.83, West Bengal- 14.12	Poisoning- 29.2, Drowning- 17.9, Hanging- 17.6	19.83
1974	7.8	Disease- 16.1, In-laws- 8.6, Love affairs- 5.5	Tripura- 25.59, West Bengal- 18.69, Kerala- 17.47	Poisoning- 27.8, Hanging- 18.5, Drowning- 17.3	17.47



1975	7.2	Disease- 16.4, In-laws- 9.5, Love affairs- 6.1	Tripura- 23.07, Kerala- 18.22, West Bengal- 15.58	Poisoning- 29.7, Hanging 20.3, Drowning- 16.0	18.22
1976	6.8	Disease- 19.5, In-laws- 9.1, Partner- 6.3	Tripura- 24.55, West Bengal- 15.4, Kerala- 14.85	Poisoning- 30.1, Drowning- 18.6, Hanging- 18.6	14.85
1977	6.3	Disease- 16.7, In-laws- 10.2, Partner- 6.5	Tripura- 20.25, West Bengal- 16.1, Kerala- 15.19	Poisoning- 28.8, Hanging- 20.6, Drowning- 18.9	15.19
1978	6.3	Disease- 16.6, In-laws- 9.3, Love affairs- 5.8	Kerala- 14.48, Karnataka- 14.44, Tripura- 14.37	Poisoning- 24.5, Hanging- 21.2, Drowning- 19.5	14.48
1979	5.9	Disease- 15.4, In-laws- 8.3, Partner- 5.9	Tripura- 19.29, Karnataka- 14.41, Kerala- 14.39	Poisoning- 22.5, Hanging- 22.0, Drowning- 20.9	14.39
1980	6.3	Disease- 13.0, In-laws- 7.6, Love affairs- 5.4	Karnataka- 16.37, Tripura- 15.55, Kerala- 14.86	Hanging- 23.6, Poisoning- 23.5, Drowning- 17.3	14.86
1981	5.9	Disease- 14.2, In-laws- 8.2, Partner- 6.8	Tripura- 21.3, Kerala- 16.12, West Bengal- 12.01	Hanging- 23.7, Poisoning- 22.1, Drowning- 17.3	16.12
1982	6.5	Disease- 14.8, In-laws- 8.5, Partner- 6.3	Tripura- 26.87, Kerala- 18.16, Karnataka- 14.29	Poisoning- 25.8, Hanging- 24.7, Drowning- 15.0	18.16
1983	6.4	Disease- 15.8, In-laws- 9.4, Partner- 7.4	Tripura- 22.85, Kerala- 19.76, West Bengal- 12.8	Poisoning- 27.3, Hanging- 25.1, Drowning- 14.4	19.76
1984	6.8	Disease- 16.2, In-laws- 9.1, Partner- 7.9	Kerala- 20.78, Tripura- 19.62, West Bengal- 16.99	Poisoning- 31.4, Hanging- 23.9, Drowning- 12.9	20.78
1985	7.1	Disease- 14.6, In-laws- 7.9, Partner- 6.6	Kerala- 22.07, Tripura- 20.12, Tamil Nadu- 15.0	Poisoning- 30.5, Hanging- 23.8, Drowning- 13.4	22.07
1986	7.1	Disease- 13.3, In-laws- 7.5, Partner- 5.5	Kerala- 21.9, Tripura- 18.35, Tamil Nadu- 15.58	Poisoning- 30.4, Hanging- 24.1, Drowning- 13.1	21.9
1987	7.5	Disease- 13.8, In-laws- 8.1, Partner- 5.9	Kerala- 23.62, Tripura- 22.55, Tamil Nadu- 17.24	Poisoning- 31.2, Hanging- 25.1, Drowning- 11.5	23.62
1988	8.1	Disease- 14.3, In-laws- 6.8, Partners- 6.2	Kerala- 24.7, Tripura- 21.1, Tamil Nadu- 17.9	Poisoning- 31.6, Hanging- 25.0, Drowning- 12.2	24.7
1989	8.5	Disease- 12.0, In-laws- 6.6, Partner- 5.0	Kerala- 24.5, Tripura- 23.8, West Bengal- 17.9	Poisoning- 32.5, Hanging- 25.1, Drowning- 11.3	24.5
1990	8.9	Disease- 12.8, In-laws- 6.2, Partner- 5.8	Kerala- 26.3, Tripura- 24.2, West Bengal- 18.0	Poisoning- 33.3, Hanging- 24.3, Drowning- 11.2	26.3

1991	9.2	Disease- 11.1, In-laws- 6.9, Partner- 5.8	Kerala- 28.9, Goa- 20.8, West Bengal- 18.0	Poisoning- 32.6, Hanging- 22.7, Drowning- 11.9	28.9
1992	9.2	Disease- 12.2, Partner- 6.3, In-laws- 5.5	Kerala- 27.3, West Bengal- 18.4, Karnataka- 17.7	Poisoning- 35.0, Hanging- 23.3, Drowning- 9.3	27.3
1993	9.5	Disease- 14.2, Love affairs- 6.5 Partner- 5.9,	Kerala- 27.0, Tripura- 18.7, Karnataka- 17.3	Poisoning- 34.1, Hanging- 24.5, Fire- 11.1	27.0
1994	9.9	Disease- 13.5, Love affairs- 5.8, Partner- 5.8	Kerala- 28.0, Karnataka- 19.1, Goa- 19.0	Poisoning- 34.8, Hanging- 23.4, Fire- 11.5	28.0
1995	9.7	Disease- 20.2, Family problem- 15.4, Love affairs- 5.9	Kerala- 25.9, Karnataka- 23.4, Tripura- 19.5	Poisoning- 37.5, Hanging- 24.4, Fire- 11.1	25.9
1996	9.5	Disease- 20.1, Family problems- 18.9, Love affairs- 4.2	Goa- 42.2, Kerala- 25.8, West Bengal- 18.9	Poisoning- 36.7, Hanging- 26.1, Fire- 11.2	25.8
1997	10.0	Disease- 20.2, Family problems- 18.4, Love affairs- 3.7	Kerala- 28.5, Karnataka- 20.3, Tripura- 20.1	Poisoning- 36.7, Hanging- 26.8, Fire- 10.7	28.5
1998	10.7	Disease- 21.1, Family problems- 19.2, Love affairs- 3.5	Kerala- 29.3, Karnataka- 21.4, Tripura- 18.9	Poisoning- 36.8, Hanging- 26.2, Fire- 11.3	29.3
1999	11.2	Family problems- 20.6, Disease- 19.9, Love affairs- 3.4	Kerala- 30.5, Tripura- 25.3, Karnataka- 24.3	Poisoning- 36.7, Hanging- 26.8, Fire- 10.7	30.5
2000	10.8	Family problems- 21.2, Disease- 21.0, Love affairs- 2.9	Kerala-28.8, Tripura- 24.6, Karnataka- 23.7	Poisoning- 38.2, Hanging- 26.1, Fire- 10.7	28.8
2001	10.6	Family problems- 22.3, Disease- 22.2, Love affairs- 2.9	Kerala-30.1, Tripura- 26.8, Karnataka- 22.5	Poisoning- 38.3, Hanging- 27.4, Fire- 10.0	30.1
2002	10.5	Disease- 23.5, Family problems- 22.7, Love affairs- 2.8	Kerala- 30.4, Tripura- 24.0, Karnataka- 22.9	Poisoning- 37.1, Hanging- 28.4, Fire- 9.7	30.4
2003	10.4	Family problems- 23.7, Disease-22.5, Love affairs- 3.6	Kerala- 28.9, Tripura- 25.6, Karnataka- 22.7	Poisoning- 38.4, Hanging- 29.4, Fire- 9.4	28.9
2004	10.5	Family problems- 22.5, Disease-22.4, Love affairs- 3.3	Kerala- 27.8, Tripura- 23.4, Karnataka- 22.0	Poisoning- 37.5, Hanging- 31.2, Fire- 7.6	27.8
2005	10.3	Family problems- 22.3, Disease-22.0, Love affairs- 3.1	Kerala-21.6, Chhattisgarh- 21.6, Tripura- 21.2	Poisoning- 36.6, Hanging- 32.1, Fire- 7.9	21.6
2006	10.5	Family problems- 26.1, Disease-22.5, Love affairs- 3.4	Kerala- 26.8, Sikkim- 25.0, Tripura- 22.3	Poisoning- 35.5, Hanging- 32.8, Fire- 8.7	26.8

2007	10.8	Family problems- 23.8, Disease-22.3, Love affairs- 2.8	Kerala- 26.3, Karnataka- 21.6, Tamil Nadu- 20.9	Poisoning- 34.8, Hanging- 31.7, Fire- 8.5	26.3
2008	10.8	Family problems- 23.8, Disease-21.9, Love affairs- 3.0	Sikkim- 48.2, Kerala- 25.0, Tamil Nadu- 21.7	Poisoning- 34.8, Hanging- 32.2, Fire- 8.8	25.0
2009	10.9	Family problems- 23.7, Disease-21.0, Love affairs- 2.9	Sikkim- 39.9, Kerala- 25.3, Chhattisgarh- 24.4	Poisoning- 33.6, Hanging- 31.5, Fire- 9.2	25.3
2010	11.4	Family problems- 23.7, Disease-21.1, Love affairs- 3.1	Sikkim- 45.9, Chhattisgarh- 26.6, Kerala- 24.6	Poisoning- 33.1, Hanging- 31.4, Fire- 8.8	24.6
2011	11.2	Family problems- 24.3, Disease-19.6, Love affairs- 3.4	Sikkim- 30.3, Chhattisgarh- 26.5, Kerala- 25.3	Hanging- 32.2, Poisoning- 32.3, Fire- 8.8	25.3
2012	11.2	Family problems- 25.6, Disease-20.8, Drug abuse- 3.3	Sikkim- 29.1, Tamil Nadu- 24.9, Kerala- 24.3	Hanging- 37.0, Poisoning- 29.5, Fire- 8.4	24.3
2013	11.0	Family problems- 24.0, Disease-19.6, Drug abuse- 3.4	Sikkim- 29.3, Tripura- 25.9, Kerala- 24.6	Hanging- 39.8, Poisoning- 27.9, Fire- 7.4	24.6

## Appendix 2

### Social variables for quantitative analyses

<b>Variable</b> <i>(state-wise) (data for all 35 cases except for Human Development Index)</i>	<b>Source</b>	<b>Measurement</b> <i>(state-wise)</i>
Suicide rates (overall as well as female and male separate)	National Crime Records Bureau, 2011; 2012	Per 100,000 population
Murder rates	National Crime Records Bureau, 2012	Per 100,000 population
Literacy rates (overall as well as female and male separate)	Census of India, 2011	Percentage share of total population
Gross Domestic Product (GDP) per capita	Census of India, 2011	In Indian rupees per capita
Rural and urban population rates	Census of India, 2011	Percentage share of total population
Religious population rates	Census of India, 2011	Percentage share of total population
Workforce participation rates (female and male separate)	Ministry of Statistics and Programme Implementation, 2011	Percentage share of total population
Unemployment rates (overall as well as female and male separate)	Ministry of Statistics and Programme Implementation, 2011	Percentage share of total labour force
Human Development Index (HDI) <i>(only available for 28 states)</i>	Institute of Applied Manpower Research, 2011; Mukherjee et al., 2014	Between the values 0 to 1
South, North, East and West Indian states	<i>According to their geographical location on the map of India</i>	<i>South India</i> - Karnataka; Kerala; Tamil Nadu; Andhra Pradesh and the Union Territory of Puducherry. <i>North India</i> - Uttarakhand; Himachal Pradesh; Punjab; Haryana; Uttar Pradesh; Bihar and the Union Territories of Delhi and Chandigarh. <i>West India</i> -Gujarat, Daman and Diu, Rajasthan, Maharashtra, Goa, Dadra and Nagar Haveli, Madhya Pradesh. <i>East India</i> -Nagaland, Jharkhand, Orissa, Assam, Meghalaya, Tripura, West Bengal, Mizoram,

		Arunachal Pradesh, Sikkim, Chhattisgarh.
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### Appendix 3

#### The area of expertise of the interviewees

Interviewee	Area of expertise
1. Kerala expert 1	A medical doctor and an official administrator of DHMP of Thiruvananthapuram
2. Kerala expert 2	A professional psychiatrist and an official administrator of DMHP of Thiruvananthapuram
3. Kerala expert 3	An academic with a specific focus on suicide rates and suicide prevention policies of Kerala
4. India expert 1	An academic with a specific focus on the sociology of suicide
5. India expert 2	An academic and a psychiatrist with a broad focus on suicides as well as suicide prevention strategies of India
6. India expert 3	An academic with a focus on mental and public health services in India

## **Appendix 4**

### **Interview questionnaires for each participant**

#### **Kerala expert 1: Interview conducted via Skype phone call on 23/03/16**

##### **Section 1 (The Magnitude of the Problem)**

1. Kerala has constantly featured in the top three suicide states of the country since 1968, any reflection on that?
2. According to you, what are the most important reasons for such a high suicide rate?
3. Kerala has also been considered as the most developed state in the country for a long time now, do you find this somehow related to the high suicide rate?
4. Do you think there is a connection between factors such as high literacy rates and the high suicide rate in Kerala?
5. Is the high suicide rate considered a prominent social problem in Kerala?
6. Is it because of stigma that people don't discuss suicide?

##### **Section 2 (The Current Policy Responses)**

1. What specific policies are designed to address suicide prevention in Kerala?
2. Is suicide solely considered as a mental health issue by policy makers? (If yes why, if no then how is it considered? Why is it only addressed in mental health?)
3. Do you think by discussing suicide as a public policy issue, the stigma associated with suicide might be reduced?
4. What is the relative priority of suicide as a policy problem within Kerala? Does the Health Department in Kerala give more priority to certain health issues over suicide prevention (If so then where does suicide stand in that priority list?)
5. Suicide rates remain high despite the implementation of DMHP since 1999 in Kerala. What do you think are the reasons for this?

##### **Section 3 (The Future Policy Responses)**

1. Are there any current developments/short term goals to address suicide prevention?
2. Are there any policies you would personally like to implement addressing suicide prevention?
3. Do you think a separate department within DHMP's focused exclusively on the suicide issue might assist?

4. Are there any suicide prevention policies in other states of India that you would like to be included within the current set of suicide prevention policies in Kerala?

**Kerala expert 2: Interview conducted via Skype phone call on 30/03/16**

**Section 1 (The Magnitude of the Problem)**

1. Kerala has constantly featured in the top three suicide states of the country since 1968, any reflection on that?
2. According to you, what are the most important reasons for such a high suicide rate?
3. Kerala has also been considered as the most developed state in the country for a long time now, do you find this somehow related to the high suicide rate?
4. Do you think there is a connection between factors such as high literacy rates and the high suicide rate in Kerala?
5. Is the high suicide rate considered a prominent social problem in Kerala?
6. Suicide is a big problem in the south but not so much in the north. Why do you think that is?
7. Can religion be related to suicide?

**Section 2 (The Current Policy Responses)**

1. What specific policies are designed to address suicide prevention in Kerala?
2. Is suicide solely considered as a mental health issue by policy makers? (If yes why, if no then how is it considered? Why is it only addressed in mental health?)
3. Do you think by discussing suicide as a public policy issue, the stigma associated with suicide might be reduced?
4. What is the relative priority of suicide as a policy problem within Kerala? Does the Health Department in Kerala give more priority to certain health issues over suicide prevention (If so then where does suicide stand in that priority list?)
5. Suicide rates remain high despite the implementation of DMHP since 1999 in Kerala. What do you think are the reasons for this?

**Section 3 (The Future Policy Responses)**

1. Are there any current developments/short term goals to address suicide prevention?
2. Are there any policies you would personally like to implement addressing suicide prevention?



3. Do you think a separate department within DHMP's focused exclusively on the suicide issue might assist?
4. Are there any suicide prevention policies in other states of India that you would like to be included within the current set of suicide prevention policies in Kerala?

**Kerala expert 3: Interview conducted via Skype phone call on 05/06/2016**

1. What are the current suicide trends in Kerala?
2. When you say slight, does it mean it hasn't come down to the expected amount?
3. Is suicide seen as a social problem by the policymakers in Kerala or just as a mental problem?
4. Would you like to comment on specific policies which are designed to address suicides in Kerala?
5. What about the suicide prevention within the DMHP's?
6. So there are no specific suicide prevention policies in the state as such? Because WHO's praised the efforts of DMHP of Thiruvananthapuram?
7. Would you say that suicide is considered only as a mental health issue by the policymakers?
8. Are any of the suicide prevention efforts informed by unemployment, changing gender roles, literacy, religion or any social factor such as these?
9. So there are no actual policies for example in Sri Lanka the means restriction?
10. But do you believe in the means restriction theory?
11. What do you think is the relative priority of suicide as policy problem in Kerala?
12. Do you think the only reason why Kerala has high suicide rates is because the recording system is better than the north Indian states?
13. Do you think suicide rates are high all across India and it is just the matter of a bad recording system?
14. So why do you think even after the intervention of DMHP's in Kerala, suicide rates in Kerala remain high?
15. If you were to design a suicide prevention strategy, what would it include?

16. Do you think that modernisation or economic liberalization has somehow influenced suicide rates in Kerala and in India?

17. Any other factors which might be affecting suicide rates? Social or otherwise?

**India expert 1: Interview conducted via Skype phone call on 07/05/2016**

1. What are the current trends in Indian suicide rates?

2. Why is suicide not considered as a big issue in India?

3. What is the extent of mental illness in India? Is the extent enough to explain high suicide rates?

4. Do you think mental health problems are themselves on the rise due to changing social structure of Indian society?

5. Do you think only severely disturbed individuals are considered mentally ill which excludes anxiety problems and substance abuse?

6. Why is the research of suicide as a social problem in India very restrictive, especially considering many of the mental health professionals consider suicide as a social problem? Can it be that the government does not want to “advertise” suicide as a social problem? For example, many states do not provide data on family/mass suicides to NCRB?

7. Do you think economic liberalisation of the Indian economy has any connection with suicide rates?

8. Do you think Indian society in general was a lot more stable before economic liberalisation?

9. Is the clash between traditional and modern values caused a jump in female suicide rates?

10. Do you think social change has had more impact on female suicide rates than males in India?

11. Why is marriage not a protective factor against suicide in India?

12. Why do you think south India has higher suicide rates than north India?

13. Anything about suicide prevention policies in India?

14. Do you think the high suicide rate in India is a mix of undiagnosed mental health problems, social change and religious predisposing to suicide?

15. Any other factors which might be affecting suicide rates? Social or otherwise?

**India expert 2: Interview conducted via Skype phone call on 29/06/2016**

1. What are the current trends in Indian suicide rates?

2. What about the statistics then? Can they be trusted? Can it be the case that North Indian record keeping is very bad as compared to South and suicide rates all over India are high?

3. Why is suicide not considered as a big issue in India?

4. What is the extent of mental illness in India? Is the extent enough to explain high suicide rates?

5. Do you think mental health problems are themselves on the rise due to changing social structure of Indian society?

6. Do you think only severely disturbed individuals are considered mentally ill which excludes anxiety problems and substance abuse?

7. Why is the research of suicide as a social problem in India very restrictive, especially considering many of the mental health professionals consider suicide as a social problem? Can it be that the government does not want to "advertise" suicide as a social problem? For example, many states do not provide data on family/mass suicides to NCRB?

8. Do you think economic liberalisation of the Indian economy has any connection with suicide rates?

9. Do you think Indian society in general was a lot more stable before economic liberalisation?

10. OK, what about farmer suicides and liberalisation?

11. Do you think social change has had more impact on female suicide rates than males in India?

12. What about changing gender roles?

13. Why does South India have higher suicides rates than North India?
14. Do you think unemployment has an effect on suicide rates?
15. Do you think religion has an impact on suicide ideation?
16. So is that to say that Hinduism has got something to do with high suicide rates?
17. Has the process of modernisation positively influenced suicide rates?
18. What is the overall state of suicide prevention policies in India? Would a national suicide strategy help?
19. Are the DHMPs working?
20. So should the suicide prevention address suicide as a social problem and not just as a psychological problem?
21. What are the biggest challenges with suicide prevention in India?
22. OK, let's say a national suicide prevention policy is implemented. Can you see any problems with it?
23. Anything about Kerala's suicide prevention?
24. Would you say that Kerala's suicide prevention is something other states can follow?
25. Any other factors which might be affecting suicide rates? Social or otherwise?

**India expert 3: Interview conducted via Skype phone call on 09/06/2016**

1. What is the current state of Indian health policies and mental health policies in general?
2. What are the problems with DMHP'S?
3. Do you think suicide in India is only considered as a mental health problem?
4. Suicide research is very restrictive as a social problem while many studies do highlight that suicide is a social problem as well. Is this the government not trying to advertise suicide as a social problem?

5. Would you like to expand on gender inequality?
6. Would you say that the extent of mental illness is not enough to explain high suicide rates in India?
7. Your thesis was focused on mental health care in India. How much of an affect do you think non-specialist delivery can have on a topic such as suicide?
8. Do you think more collaboration between NGO's and DHMP's can help?
9. Do you think a national suicide prevention policy is vital?
10. How do you see suicide prevention in a country like India and more importantly, in a state like Kerala which is highly socially developed?
11. Any other factors which might be affecting suicide rates? Social or otherwise?

## Appendix 5

### Bivariate association between female suicide rates and female literacy rates

**Correlations**

		Female_suicide_r	Female_lit_r
Female_suicide_r	Pearson Correlation	1	.146
	Sig. (2-tailed)		.409
	N	34	34
Female_lit_r	Pearson Correlation	.146	1
	Sig. (2-tailed)	.409	
	N	34	35

## Appendix 6

### Bivariate association between north Indian states and murder rates of India

**Correlations**

		Nth_India	Murder_rate
Nth_India	Pearson Correlation	1	-.004
	Sig. (2-tailed)		.983
	N	35	35
Murder_rate	Pearson Correlation	-.004	1
	Sig. (2-tailed)	.983	
	N	35	35

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21 March 2016

Dear Dr Wilson

**Reference No:** 5201600019

**Title:** *The Kerala Conundrum: Policy Res*  
*Kerala*

Thank you for submitting the above applicati  
application was considered by the Macquarie  
Committee (HREC (Human Sciences & Hum

I am pleased to advise that ethical and scienti  
to be conducted by:



The HREC (Human Sciences and Humanities) Terms of Reference and Standard Operating Procedures are available from the Research Office website at:

[http://www.research.mq.edu.au/for/researchers/how\\_to\\_obtain\\_ethics\\_approval/human\\_research\\_ethics](http://www.research.mq.edu.au/for/researchers/how_to_obtain_ethics_approval/human_research_ethics)

The HREC (Human Sciences and Humanities) wishes you every success in your research.

Yours sincerely



**Dr Karolyn White**

Director, Research Ethics & Integrity,

Chair, Human Research Ethics Committee (Human Sciences and Humanities)

This HREC is constituted and operates in accordance with the National Health and Medical Research Council's (NHMRC) *National Statement on Ethical Conduct in Human Research* (2007) and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

**Details of this approval are as follows:**

**Approval Date:** 8 March 2016

The following documentation has been reviewed and approved by the HREC (Human Sciences & Humanities):

Documents reviewed	Version no.	Date
Macquarie University Ethics Application Form		Received 29/01/2016
Response addressing the issues raised by the HREC		Received 4/03/2016
Appendix B: Research to be undertaken outside Australia		29/01/2016
Interview Outline	1.0	29/01/2016
Participant Information & Consent Form	1.0	29/01/2016
Contact Email	1.0	29/01/2016

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