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The relationship between status and happiness: Evidence from the caste system in rural India *

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Abstract

A large number of empirical studies have investigated the link between social status and happiness; however, in observational data, identification challenges remain severe. This study exploits the fact that, in India, people are assigned a caste from birth. Two similar surveys of household heads (each with N=1000) in rural Punjab and Andhra Pradesh show an increasing pattern of economic welfare with caste hierarchy. This illustrates that, in the rural regions under study, one's caste is still an important determinant of opportunities in life. Subsequently, we find that the castes at the top are clearly more satisfied than the lower and middle castes. This result, which is in line with the predictions of all major social comparison theories, is robust across the two case studies. The pattern across low and middle castes, however, is less clear, reflecting the complex theoretical relationship between being of middle rank, on the one hand, and behaviour, aspirations, and well-being, on the other hand. In the Punjab sample, we even find a significant U-shaped pattern, with the middle castes being the least happy. Interestingly, these patterns resemble those found for Olympic medallists (first documented by Medvec *et al.*, 1995).

Keywords: subjective well-being, happiness, social status, social comparison

JEL codes: I31, C1, O12

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1 Introduction

Many household surveys contain questions asking respondents about their satisfaction with life (Veenhoven, 2016). There is well-established evidence that such subjective reports of actual feelings exhibit external validity and are suitable for interpersonal comparison (Oswald and Wu, 2010). Hence, they are an important source for social scientists to investigate patterns in people's well-being, to study their preferences, and eventually to test or develop behavioural theories.¹

Subjective well-being data have therefore taken an important place in the debate on welfare measurement and the construction of welfare indices (Benjamin *et al.*, 2014; Decancq *et al.*, 2015; Oswald, 1997; Stiglitz *et al.*, 2009). While the literature on subjective well-being initially focused on developed economies (for which large panel datasets are widely available), subjective well-being data are increasingly being used in case studies on developing and transition economies as well, with interesting implications for academia and social policy (e.g. Devoto *et al.*, 2012; Fafchamps and Shilpi, 2008, 2009; Knight and Gunatilaka, 2010a, 2010b, 2011; Senik, 2009).

'Happiness regressions' have documented patterns of people's satisfaction across a range of objective individual characteristics, such as age (Blanchflower and Oswald, 2008), income (e.g. Easterlin *et al.*, 2010; Stevenson and Wolfers, 2008; Veenhoven, 1994), unemployment (Winkelmann and Winkelmann, 1998), and education (Oreopoulos, 2007). The impact of social status on satisfaction and happiness has proven to be a more complex topic for research, particularly due to identification challenges, but certainly not less fascinating.

Recent work by Anderson *et al.* (2012) tries to isolate the impact of sociometric status, that is, the 'respect and admiration' individuals receive from their peers (family members, neighbours, colleagues, etc.) from the material dimensions of socioeconomic status. The authors find that the position of individuals on the 'local social ladder' is a strong determinant of their life satisfaction level and they relate this to the individuals' personal sense of power and control, a critical determinant of psychological well-being (Keltner *et al.*, 2003). Although the work of Anderson *et al.* (2012) only compares individuals of low social status to individuals of high social status, the underlying theory suggests a straightforwardly positive correlation between happiness and social status. Such a positive correlation has also been found in other

¹Reviews on how happiness research can inform and influence the discipline of economics are presented by Di Tella and MacCulloch (2006) and Powdthavee (2010), as well as Clark *et al.* (2008), who argue that happiness research has contributed greatly to the support and development of theoretical models on endogenous preference formation.

studies, including that of Haller and Hadler (2006), based on World Values Survey data.

There is evidence, however, that the direction of the relation between happiness and relative standing is slightly more complex and hence not always straightforwardly positive. A salient illustration of this more complex relation is provided by Medvec *et al.* (1995), who use three different approaches to study the satisfaction of medallists at the Summer Olympic Games in Barcelona in 1992. The authors find that bronze medal winners are generally more satisfied than silver medal winners and they attribute this to different directions in counterfactual comparison: for silver medal winners, an upward comparison is most likely, given the considerable difference in prestige between winning a silver medal and a gold medal, whereas, for bronze medallists, the comparison is likely to be downward, since there is a considerable difference between winning no medal at all and winning a bronze medal. In a recent paper, Dolan *et al.* (2016), using data on medallists' performance, confirm this theory of counterfactual thinking: while they find a positive relation between performance and happiness for bronze and gold medallists, they find that silver medallists are less happy the narrower the margin with the gold medallist.

Another strand of literature in the field of social psychology argues that middle-status groups tend to feel more insecure (Kelley and Shapiro, 1954; Dittes and Kelley, 1956), resulting in more conforming behaviour and possibly lower well-being.

This paper aims to contribute new insights into this emerging field of research by studying the differences in subjective well-being across castes in rural areas of two states in India: Punjab and Andhra Pradesh (AP). Caste has properties similar to those of other often-studied socioeconomic determinants, such as gender, race, and ethnicity: it is a fixed and predetermined personal characteristic that can have important consequences for life outcomes. In addition, the caste system's explicit hierarchical structure makes it a very interesting context in which to study how social status can affect people's well-being and other socioeconomic characteristics.

Our data, from two similar surveys, offer a unique opportunity to compare patterns in subjective well-being and other relevant indicators between two regions that have important similarities in terms of institutions (for belonging to the same country), as well as relevant differences in a societal context.

Our paper complements earlier work on subjective well-being in India. Two studies conclude, based on different research strategies, that the income of others (both from one's own caste and from other castes) does have a depressing impact on happiness in India, especially for lower castes (Fontaine and Yamada, 2014) and those with low incomes (Carlsson *et al.*,

2009).² Linssen *et al.* (2011) use a small panel dataset on rural Indians to study the effect of relative consumption on happiness, considering the other villagers as the reference group. These studies, however, do not exploit the explicit hierarchical structure of the caste system to better understand the relationship between happiness and social status.

Our paper is structured as follows. Section 2 provides a brief review of social comparison theory and how it has been applied and explored in happiness research. Section 3 provides additional background on the Indian caste system. Section 4 describes how the data for this study were collected and Section 5 presents our key observations based on these data. Section 6 offers a tentative explanation for these observations and Section 7 concludes the paper.

2 Social comparison theory

The subjective well-being literature has advertised the idea that a person's utility is determined not only by absolute conditions (e.g. higher income), but also by direct comparison of the person's own position relative to others around him/her (e.g. Diener, 1984). This finding has its roots in social psychology research. Festinger's (1954) social comparison theory posits that individuals have a natural tendency to evaluate their opinions and abilities in comparison with others. The ensuing prediction is that people will feel happier if they find themselves better off than others (Brickman and Bulman, 1977).

Next, there are several reasons, rooted in economic theory, why people might care about relative income. Rayo and Becker (2007) provide an explanation based on evolutionary theory. The higher up one is in the hierarchy, the more one is secured against covariate shocks that cause the scarcity of (basic) goods such as food (Sen, 1981) and it can be shown algebraically that, under certain conditions, a community in which people care about relative performance will continuously invest in making progress instead of opting for the status quo (Clark and Oswald, 1998). The studies of Duesenberry (1949) and Pollak (1976) are influential examples of work in which interdependent preferences are formally modelled to better explain demand, consumption, and saving behaviour. Another example is the study of Frank (1984), who presents a model that argues that the wage dispersion in a firm can be smaller than that of marginal productivity, since those at the lower end of the within-firm productivity distribution want to be compensated for ranking low, while those at the upper end of the distribution need

²Fontaine and Yamada (2014) use a different classification, merging what we refer to as lower castes (SCSTs) and middle castes (OBC) together in a single category of so-called lower castes. However, their Table 3 regression results, which provide a more disaggregated view, suggest that OBCs are less happy than SCSTs, on average, after controlling for several observed characteristics.

to pay a premium for ranking high. Redistributive taxation schemes have been developed that take into account the negative externalities that arise when, given interdependent preferences, humans try to pursue higher income (Boskin and Sheshinski, 1978).

Most studies in economics that investigate the effects of comparison on satisfaction indeed find that people's happiness responds positively to increases in one's own income but negatively to increases in the income of others. Still, some studies find a positive relationship between happiness and reference income and attribute this to a signalling effect: if people around me start getting richer, my lot might improve soon as well (Clark *et al.*, 2009; Senik, 2004).

While the complex mechanisms that drive comparisons could explain why empirical results vary across case studies, there are also notorious identification challenges to address when studying comparison or peer effects. First, the researcher needs to decide who to include in the reference group. To some extent, individuals choose their comparison group strategically. For example, self-improvement interests could encourage individuals to compare themselves with others who are better off in some way (for a discussion of upward comparison, see, e.g. Wheeler, 1966); while self-enhancement interests could encourage individuals to compare themselves with others who are worse off than oneself (for a discussion of downward comparison, see, e.g. Wills, 1981).

Nevertheless, individuals should not be considered as having full discretion as to which reference group they select for social comparison. As Wood (1989) argues, the social environment can impose unwanted comparisons.

A number of social theories lead to the prediction that an individual's reference group for social comparison is constituted by various groups of other individuals, whereby those individuals who are more similar receive greater weight in the comparison (Crosby, 1976; Festinger, 1954; Goethals and Darley, 1977; Wheeler and Zuckerman, 1977). If groups that are better off (upward comparisons) have the greatest weight in the reference group, the comparison effect on individual subjective well-being will be depressing; if groups that are worse off (downward comparisons) dominate the reference group, the comparison effect on subjective well-being will be positive.

Recent studies in economics, such as those of Card *et al.* (2012), Clark and Senik (2010), and Dahlin *et al.* (2014), have tried to better understand which reference groups matter most for comparisons. Generally, however, empirical studies have faced major methodological challenges when having to decide whom to include in the reference group and how much weight different reference groups should be given. A second and maybe even more serious problem that has also been recognized in other domains in which peer effects are studied is the diffi-

culty of separating a peer effect from other factors (Manski, 1993). For example, older people will go to an eye doctor more than others in society, not because their peers do so but because they generally need more eye care. Similarly, in a happiness regression, peer income could be correlated with the same observable and unobservable characteristics as those that affect happiness, making it difficult to isolate these effects from each other.

Recently, much progress has been made on these so-called identification issues in innovative empirical settings and the results seem to be in line with the mainstream findings in observational studies. Using brain imaging in a lab environment with a predefined reference group, Fliessbach *et al.* (2007) identify a positive effect of relative income on pleasure. In a natural field experiment, Card *et al.* (2012) find that increased exposure to information about peers' wages has no significant effect on job satisfaction for those with a wage above the median of their peers, but a negative effect for those with a wage below this median.

3 The Indian caste system

The analysis in this paper considers the Indian caste system as a predetermined source of noneconomic status. In the Indian Hindu tradition, society is classified into a hierarchy of groups (*castes* or *jatis*), which are predetermined by birth. There is a strong preference for within-caste marriage, regardless of other socioeconomic characteristics (Banerjee *et al.*, 2013), and caste also matters greatly in politics, business networks, and career progress (Iversen and Raghavendra, 2006). Caste affiliation is determined largely by a family's dominant historical professional occupation and recent genetic research suggests that caste divisions hardened (with intermarriage becoming scarce) 1,500 to 2,000 years ago (Basu *et al.*, 2016; Moorjani *et al.*, 2013).

There are signs that economic development is triggering a change in the role of castes in society. For example, in a case study for Bombay, Munshi and Rosenzweig (2006) find that especially lower-caste girls are taking advantage of the globalizing economy by switching to modern English schools, hereby increasing their potential contribution to the labour market. However, the importance of the caste system still seems to persist. Using data from the nationally representative Indian Human Development Survey, Allendorf and Pandian (2016) find that intercaste marriages remain rare, increasing from 4% in the 1970s to 6% in the 2000s, with virtually trends identical for rural and urban areas. Although forbidden by law, Thorat and Joshi (2015), using the same data, find that 20% of urban households and even 30% of

rural households still practices untouchability³ in 2011–2012.

There are a large number of castes, or *jatis*, in India, which are generally classified into four groups, or *varnas*: the Brahmins (priests), the Kshatriyas (warriors and rulers), the Vaishyas (skilled traders, merchants, and minor officials), and the Shudras (unskilled workers). Certain groups have always been excluded from the varna system and attributed very low social status for being involved in occupations considered demeaning, including manual scavenging. These groups have also been referred to as Dalits, or ‘untouchables’.

Since 1950, the Constitution of India has included several measures to fight discrimination against these lower castes, including quotas in education and public sector jobs. When first introduced, lists were drawn up of the castes that would be eligible for such affirmative action. These lists distinguish between SCs and STs, the latter comprising a number of indigenous tribes also referred to as *adivasis* but with a social status comparable to that of the SCs. According to the 2011 Census of India, SCs and STs make up, respectively, 17% and 9% of the Indian population. The majority of these are in rural areas: SCs make up 19% of the rural population and STs 11%.

A few measures also apply to a list of OBCs, a list of castes and communities considered socially and educationally backward, some of which belong to the Shudra varna. This group of castes comprises around 30% of the Indian population, according to the same census. The highest social castes of SCs/STs/OBCs are often referred to as the ‘creamy layer’, since they are made up of individuals who generally already have a better socioeconomic situation and a good level of education, which enable them to optimally exploit the opportunities offered by reservation policies. Our analysis considers SCs and STs together, as common in the literature, and refers to them as the lower castes. The OBC groups are considered separately and referred to as the middle castes. Finally, all the other castes under the varna system are referred to as the higher castes.

4 Data collection

Household-level data were collected for Punjab, a state in the north of India, in 2008 within the framework of a broader study of the Indian dairy production sector.⁴ This study selected

³This practice is similar to apartheid previously in South Africa, whereby the lowest in the caste hierarchy (Dalits) are excluded and discriminated against by non-Dalits.

⁴The survey was carried out by the Centre for Institutions and Economic Performance (LICOS) at KU Leuven and supported by the New Delhi Office of the International Food Policy Research Institute. For more background, see, for example, Squicciarini *et al.* (2017) and Vandeplas *et al.* (2013).

1,000 households in rural areas through a multistage sampling method. First, 50 villages were selected across five districts through stratified sampling. In each village, 20 households were selected, again based on a stratified sampling strategy. The questionnaire that was used for the survey included, in addition to a standard household identification module, specialized modules on agricultural production (including dairy), agricultural input and output markets, other sources of income, and consumption and a set of questions on subjective well-being. The questionnaire is freely available upon request from the authors.

A similar survey was carried out in 2010 in AP, a state in the south of India (see Figure 1): 1,000 households were interviewed in 50 villages. In fact, given how large AP is, the survey could only cover the southern part of the state, notably, the regions referred to as Rayalaseema (the districts of Kurnool, Cuddapah, Ananthapur, and Chittoor) and the southern part of coastal Andhra (the districts of Nellore, Pranam, Guntur, and Krishna). The survey should therefore be considered representative of only this region. In June 2014, several districts were split off from the state of AP to form a new state, named Telangana. All of the districts covered in our study remain in the state of AP.

Our survey data from both regions were collected through similar questionnaires, ensuring that the case studies are more comparable than in many other subjective well-being papers using multiple datasets. This point is important, since some are concerned that question ordering within a survey and other survey design characteristics can have an effect on subjective well-being responses (e.g. Smith, 1979).

The data allow for the calculation of income and consumption levels at the household level. Since consumption tends to be reported with less measurement error than income and since the former is better smoothed over time, we use consumption expenditures as our main measure of economic well-being. Consumption is measured as the sum of total expenditures on a detailed list of food and non-food items, with different reference periods according to the type of item, as usually recommended in the literature (Grosh and Glewwe, 2000).⁵

The subjective well-being question in the survey is specified as ‘How happy are you?’, with the following answer options: very happy, happy, more or less happy, not happy/not unhappy, more or less unhappy, unhappy, and very unhappy. These answers are analysed as a seven-point

⁵In particular, consumption is calculated as the sum of expenditures on eating/drinking out (with a reference period of the last seven days) and various food and fuel items (with a reference period of the last 30 days); expenditures on salt, spices, tea, coffee, tobacco, bottled drinks, nuts, fuel and lights, entertainment, telecommunications, toiletry articles, household items, transportation, house rent, utility fees, staffing, and medical out-patient services (with a reference period of 30 days) and medical in-patient services; and costs related to education, clothing, furniture, personal care and therapeutical items, repair and maintenance, insurance premiums, holidays, and social items (with a reference period of 365 days).

categorical variable. An important identifying assumption here is that the frame of reference (the relationship between the reported score and actual happiness) is, on average, the same in the different castes. Earlier research has, however, shown that, even though there is heterogeneity in the frames of reference across individuals, this heterogeneity seems to be unrelated to socioeconomic variables and to have little effect on the coefficients in cross-sectional happiness regressions (Beegle *et al.*, 2012; Ravallion *et al.*, 2016).

Since the survey was oversampling some household categories, appropriate sample weights are used. While weighted statistics will be discussed in the text, the tables in Section 5 also show the unweighted statistics. As is common in the empirical literature, extreme weights were trimmed to avoid any instability in our estimations and inflation of sample estimate standard errors.⁶

5 Data analysis

Key descriptive statistics are documented in Table 1. The first column shows the sample means and the last column the population means.

In nominal terms, households in Punjab are, on average, poorer, with a per capita consumption level of 20,198 INR/year (corresponding to roughly 484 USD at the time of the survey), compared to 23,930 INR/year in AP (equivalent to roughly 524 USD at the time of the survey). However, since the survey in AP was carried out two years after that in Punjab and since inflation in India tends to be high, the mean real consumption per capita expenditure levels were similar in both surveys.⁷ At the same time, the distribution of expenditures in Punjab is considerably more unequal than in AP.

Nevertheless, households in AP seem to be happier, on average, than those in Punjab: the average happiness scores are 5.5 in Punjab and 5.8 in AP. While, in Punjab, the household heads are slightly older (47.6 years old versus 46.2 years old in AP) and the households slightly larger (5.4 members, on average, versus 4.7 in AP), there is a substantial difference in the education levels of household heads. Household heads have attended school for five years, on average, in Punjab, compared to only 3.2 years in AP. In both samples, more than 92% of household heads are married. Our data suggest that 41% of the Punjabi population under study belongs

⁶In practice, this means that the seven lowest sample weights (out of 2,000) were slightly scaled up and the seven highest sample weights were scaled down. Trimming was applied only slightly, since strong trimming increases the risk of reducing the representativeness of the sample.

⁷The statewide rural general price index for Punjab was 465 in April 2008 (with a base of 1986–1987 = 100) and 561 in AP in 2010 (Government of India, 2009, 2012).

to the lower castes (SCSTs) and 10% to the middle castes (OBCs). The corresponding figures for AP are 28% and 40%, respectively. These results are roughly in line with statewide official estimates (Census of India, 2011). The distributions of religions across the two states are quite different: in our data, in Punjab, 85% of the households are Sikh and 14% are Hindu, whereas, in AP, there are no Sikh; instead, 80% of the population is Hindu, 12% is Christian, and 7.5% is Muslim.⁸

To explore the relationship between the castes, on the one hand, and subjective well-being (happiness) and two of its main determinants, economic well-being (measured as consumption per capita) and education level, on the other hand, we first carry out a series of parsimonious ordinary least squares regressions for both Punjab and AP. Standard errors are robust to heteroscedasticity and sampling weights are used. Since one's caste is a fixed and predetermined personal characteristic, the cross-sectional nature of our data suffices for our purpose.

Next, to better understand the drivers of happiness in these regions and to investigate whether observable factors alter the observed pattern over the hierarchy of castes, we provide results from happiness regressions in which we add standard controls. The controls that are available in our data and relevant to this specific rural development context are years of education, consumption per capita, age, marital status, household size, and religion.

The key results of our analysis are presented in Figure 2 and are based on the estimates documented in Table 2. The vertical bars show the average happiness levels for the lower, middle, and higher castes in each region under study and the horizontal bars indicate the 95% confidence intervals. Figures 3 and 4 present the patterns for the logarithm of annual consumption expenditures per capita and the number of completed years of education of the household head (the main respondent of the questionnaire) for each region. The underlying regressions are shown in Table 3.

On average, happiness is higher in AP than in Punjab, in spite of average consumption being similar and education levels being higher in Punjab than in AP. A possible driver could be substantially higher income inequality in Punjab than in AP, since several studies have shown a negative impact of inequality on subjective well-being (Alesina *et al.*, 2004; Alesina and La Ferrara, 2005) unless there is high social mobility, in which case inequality can be seen as a sign of opportunity (Clark, 2003).

As expected, the highest castes are the happiest in Punjab, but the least happy are not the lower castes but, rather, the middle castes: happiness follows a V-shaped pattern across the

⁸The reported differences between Punjab and AP are all statistically significant at the 1% level, except for the incidence of lower castes, which is statistically significant at the 10% level.

hierarchy of castes. On average, happiness is 0.33 point higher for the lower castes than for the middle castes in Punjab and 0.68 point higher for the higher castes.

In contrast, other key socioeconomic variables (consumption and education) are increasing across the hierarchy of castes. On average, the middle castes consume 22% more than the lower castes, while the higher castes consume 21% more, on average, than the middle castes. These differences are all statistically significant, as can be seen in Table 3. For education, the curve is somewhat different. The average education levels of the household heads in the middle and higher castes are similar, at 5.5 and 5.8 years, respectively, while the lower castes lag significantly behind, with, on average, only 3.9 years of education.

In our AP sample, higher castes are 0.20 point happier than the middle castes, while happiness levels for the lower castes are similar to those of the middle castes (see Figure 2).⁹

Cross-caste patterns of the logarithm of annual consumption expenditures per capita and years of education completed by the household head (as depicted in Figures 3 and 4, respectively) are different from the patterns observed in the Punjab sample. Notably, inequality in consumption per capita across castes is less pronounced than in the Punjab region, with consumption per capita, on average, 8% lower (although the difference is only weakly statistically significant) for the lower castes and 10% higher for the higher castes, compared to the middle castes. While, in Punjab, the education levels of the middle and high castes are very similar and the education of the lower castes is far behind, Figure 4 presents a mirror image for AP. The household heads in the lower and middle castes have 2.7 and 2.5 years of education, respectively, while those in the higher castes have significantly more, with around 4.5 years of education.

Our control variables for happiness have, where significant, the expected sign. Per capita consumption levels have a positive sign in both states. A household's education level and age do not have a significant impact. Being widowed has a significant negative impact on happiness in AP and the same goes for being divorced in Punjab.¹⁰ Household size has a positive significant sign in both states, suggesting that household heads enjoy being close to their extended family. Some of the religion variables have a significant effect as well. Sikh and Christian individuals are significantly happier than Hindus in Punjab. Muslims are reportedly less happy, but the difference relative to Hindu individuals is not significant in either of the two states.

⁹These results are robust to alternative specifications, e.g. when interaction terms are added of the caste dummies on the one hand, and the consumption and education variables on the other hand.

¹⁰Note that these estimates are based on a small set of observations. Moreover, the variation in age of the household heads is much smaller than the variation in age of all the adults in a household, which could further explain why we do not find any pattern of happiness over the life course, even when including higher-order terms.

6 A tentative explanation

In both case studies, the upward trend in socioeconomic variables across the hierarchy of castes is an illustration of how higher status (predetermined, in this case) comes with benefits and opportunities in life. It is, hence, in accordance with mainstream theories of social comparisons where, in both case studies, the castes at the top are clearly more satisfied than the lower and middle castes. The V-shaped relationship between status and happiness found in Punjab is similar to the results of Medvec *et al.* (1995) on the happiness of Olympic medallists.

Our results also align with earlier findings from social psychology research where middle status groups tend to be more insecure and behave in a more conforming fashion than those with lower or higher status, since they are more subject to the fear of status loss (Kelley and Shapiro, 1954; Dittes and Kelley, 1956; Duguid and Goncalo, 2015). The reasoning behind this ‘middle status conservatism’ hypothesis is that high-status individuals could be more self-confident and therefore more willing to take on risks, while low-status individuals could consider they have less to lose (Phillips and Zuckerman, 2001). An alternative hypothesis with similar implications is that social status behaves as a ‘luxury good’, for which demand increases more than proportionally with income growth.

In this context, it is particularly interesting that Srinivas (1956) and Khamis *et al.* (2012) find that middle castes in India are more likely than lower castes to strive for social recognition by adapting higher-caste habits and investing more in status goods, behaviour that has been shown to be associated with lower subjective well-being by Kasser and Ryan (1993). These observations all contribute to a tentative explanation for our observations that middle-caste groups are generally less happy than would be expected based on their status, because they attach higher weight to upward comparisons with higher-caste groups and are more likely to strive for conformity with these groups than the lower-caste groups are.

A possible explanation for why the V-shaped relationship is more pronounced in Punjab than in AP is that, in Punjab, middle castes are more likely to identify with higher castes than in AP, based on the similarity in education levels between middle and higher castes in Punjab. Indeed, according to Festinger’s (1954) hypothesis, people tend to compare themselves with individuals with similar attributes. Moreover, when education levels are similar, individuals from the two castes are likely to be more often in direct contact with each other and thus can better compare their achievements with those of the other caste.¹¹

¹¹Unfortunately, our current dataset does not contain enough information to empirically test this tentative explanation. A survey that covers a larger number of regions and which contains a module that explicitly measures people’s aspirations might take the empirical exercise to a next level.

If higher castes in Punjab have similar education levels (a proxy for abilities) but higher incomes, such an upward comparison could further reduce subjective well-being among middle-caste groups. In AP, the education levels are less similar between middle and higher castes. Moreover, since the differences in living standards between lower and middle castes are relatively small in AP, the difference could be less observable, with a less depressing impact on well-being for those who have less.¹²

Obviously, our results cannot be extrapolated to every comparison setting, since caste is predetermined and cannot be altered through continuous effort. This could explain why the differences in subjective well-being across castes is relatively large, in line with the findings that low social mobility is related to a stronger comparison effect (Senik, 2004, 2008) or to greater inequality aversion (Alesina *et al.*, 2004).

7 Conclusions

The influence of social status on people's happiness is an important topic, which is reflected by the attention it has been receiving from researchers across different disciplines. First, this interest can be motivated by genuine policy concern about people's happiness and the ensuing need to explore its determinants. Second, since research shows that people generally try to maximize their happiness (Fleurbaey and Schwandt, 2015), understanding how relative standing relates to happiness is an important step towards understanding and predicting human behaviour. Studies that have been able to demonstrate a cause and effect relationship between social status and happiness generally conclude that happiness, job satisfaction, and other variations of self-reported satisfaction increase with social status. Theoretical behavioural models that incorporate a preference for status also assume that happiness or utility increases with status.

The pattern of subjective well-being we observe across the caste hierarchy is, however, nonlinear, implying that the lower castes are at least as happy as the middle castes, even after controlling for standard factors, including living standards and education. We hypothesize that this is because the middle castes attach more weight to upward comparisons. This finding is in line with social psychology research, which finds that middle-status individuals are more insecure and more often seek conforming behaviour, and studies in the Indian context that have found that middle-caste individuals are more likely to attempt to claim a higher position

¹²In this context, Haller and Hadler (2006) argue that social class differences in happiness will be larger in societies with strong inequality and little political freedom, but they do not provide a direct empirical test of this hypothesis.

in the caste hierarchy, for instance, by emulating higher-caste rites or investing more in status goods.

Moreover, we reason that middle-caste groups are even less happy in a context in which they experience large performance gaps (in terms of income disparity) with higher-caste groups, in spite of strong similarities in terms of education, which can be considered a proxy for ability. This result is in line with the seminal work of Festinger (1942), who hypothesizes that individuals are more likely to socially compare themselves with others with similar attributes and to find themselves less happy if these similar others perform better, for example, in terms of income.

While our case studies can inspire the broader debate on the relationship between status and happiness and can be important for the further development of behavioural theories, they should also attract attention because of the sheer size of the population to which they relate. India has over 1 billion inhabitants and around two-thirds of them live in rural areas. Our case studies are a reminder that castes still play an important role in rural areas and underline the necessity of further analysis of the patterns of happiness in rural India, as well as of the contemporaneous role of the caste system in these areas.

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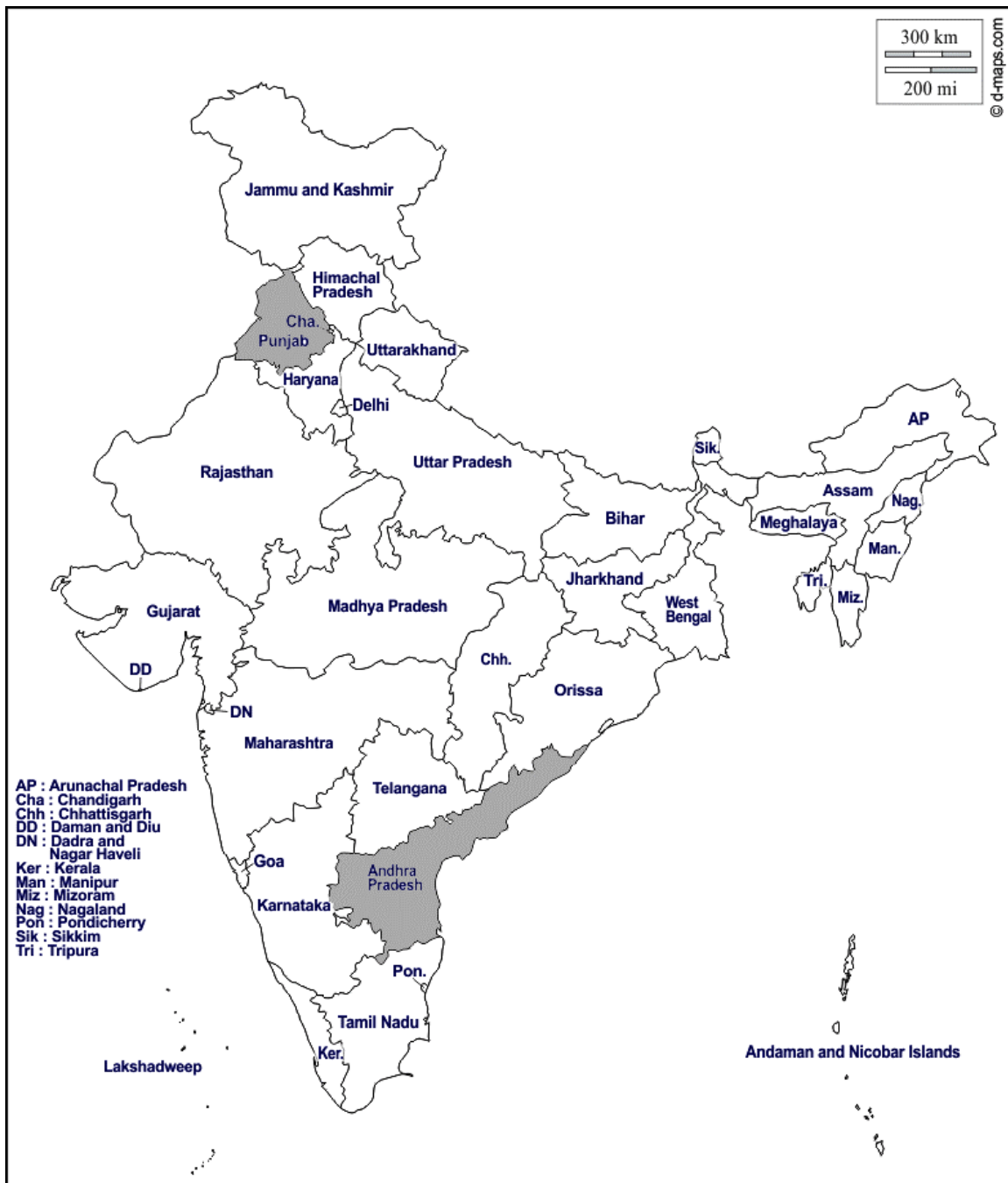
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Figure 1: States of India, 2018



Source: d-maps (http://d-maps.com/carte.php?num_car=24855&lang=en)

Figure 2: Happiness score, by caste

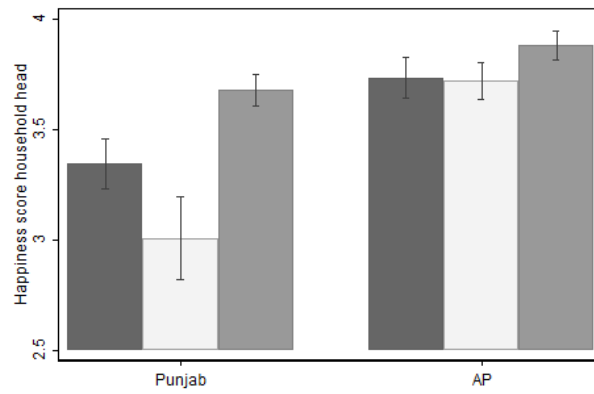


Figure 3: Real consumption per capita (INR), by caste

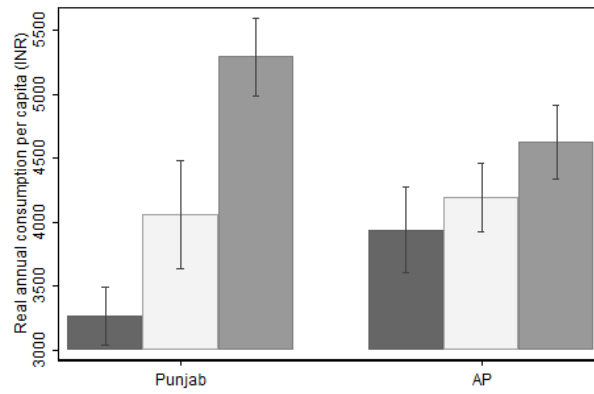


Figure 4: Years of education, by caste

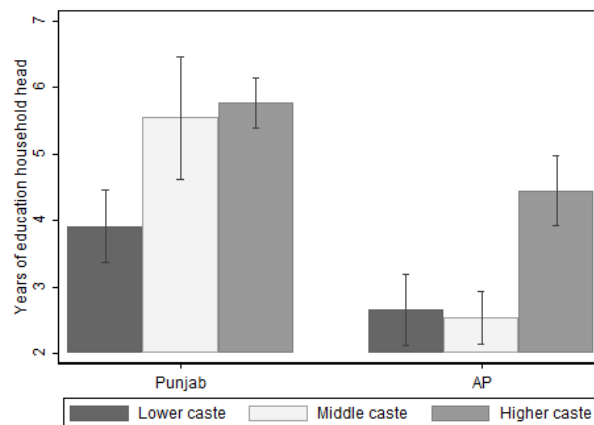


Table 1: Summary statistics

Punjab sample						
Variable	Mean	SD	Min.	Max.	N	Pop. Mean
Happiness	5.5	0.95	1	7	1000	5.5
Consumption per capita (INR/year)	24,884	19,755	4,321	253,782	999	20,198
Education household head (years)	5.1	4.6	0	17	1000	5.0
Age household head (years)	49.0	12.4	18	90	1000	47.6
Nr household members	5.8	2.5	1	23	1000	5.4
Married (1= Yes)	0.927	0.260	0	1	1000	0.927
Never married (1= Yes)	0.016	0.126	0	1	1000	0.014
Widowed (1= Yes)	0.055	0.228	0	1	1000	0.059
Divorced (1= Yes)	0.002	0.045	0	1	1000	0.000
Lower caste (1= Yes)	0.276	0.447	0	1	1000	0.409
Middle caste (1= Yes)	0.117	0.322	0	1	1000	0.098
Hindu (1= Yes)	0.123	0.329	0	1	1000	0.140
Sikh (1= Yes)	0.869	0.338	0	1	1000	0.852
Christian (1= Yes)	0.001	0.032	0	1	1000	0.003
Muslim (1= Yes)	0.005	0.071	0	1	1000	0.004

AP sample						
Variable	Mean	SD	Min.	Max.	N	Pop. Mean
Happiness	5.8	0.76	2	7	990	5.8
Consumption per capita (INR/year)	25,024	17,608	2,480	250,803	999	23,930
Education household head (years)	3.3	4.5	0	18	977	3.2
Age household head (years)	47.0	11.1	22	82	998	46.2
Nr household members	5.0	2.0	1	16	999	4.7
Married (1= Yes)	0.956	0.205	0	1	998	0.952
Never married (1= Yes)	0.022	0.147	0	1	998	0.033
Widowed (1= Yes)	0.022	0.147	0	1	998	0.016
Divorced (1= Yes)	0.000	0.000	0	0	998	0.000
Lower caste (1= Yes)	0.241	0.428	0	1	1000	0.277
Middle caste (1= Yes)	0.411	0.492	0	1	1000	0.396
Hindu (1= Yes)	0.830	0.376	0	1	1000	0.801
Sikh (1= Yes)	0.000	0.000	0	0	1000	0.000
Christian (1= Yes)	0.108	0.311	0	1	1000	0.116
Muslim (1= Yes)	0.057	0.232	0	1	1000	0.075

Table 2: Regression results (reference group = middle castes)

VARIABLES	Happiness					
	Punjab (1)	Punjab (2)	Punjab (3)	AP (1)	AP (2)	AP (3)
Lower castes	0.331 (0.208)	0.427** (0.222)		0.043 (0.107)	0.033 (0.123)	
Higher castes	0.676*** (0.205)	0.639*** (0.209)		0.202*** (0.094)	0.162* (0.099)	
Log (cons per capita)		0.201 (0.149)	0.272*** (0.127)		0.249*** (0.077)	0.264*** (0.079)
Education household head		0.008 (0.016)	0.009 (0.016)		-0.002 (0.009)	0.001 (0.008)
Age household head		-0.002 (0.004)	-0.001 (0.005)		-0.001 (0.003)	-0.000 (0.003)
Never married		0.083 (0.327)	0.128 (0.335)		0.099 (0.172)	0.071 (0.160)
Widowed		0.198 (0.252)	0.110 (0.271)		-0.450* (0.285)	-0.485** (0.282)
Divorced		-2.718*** (0.500)	-2.695*** (0.515)			
Household size		0.057*** (0.028)	0.069*** (0.028)		0.029** (0.018)	0.029** (0.018)
Sikh		0.252 (0.183)	0.323** (0.181)			
Christian		1.428*** (0.379)	1.159*** (0.375)		0.041 (0.122)	0.014 (0.097)
Muslim		-0.548 (0.658)	-0.454 (0.620)		-0.032 (0.209)	-0.005 (0.210)
Constant	4.985*** (0.182)	2.513* (1.533)	2.161** (1.282)	5.674*** (0.084)	3.108*** (0.811)	3.014*** (0.806)
Observations	1,000	999	999	990	965	965
R-Squared	0.048	0.078	0.047	0.011	0.034	0.028

The results are drawn from OLS regressions.

Huber–White robust standard errors are presented in parentheses.

*** p<0.05, ** p<0.10, * p<0.15.

Table 3: Regression results (reference group = middle castes)

VARIABLES	Log(cons. per cap.)		Years of education	
	Punjab	AP	Punjab	AP
Lower castes	-0.215*** (0.086)	-0.077* (0.048)	-1.628* (1.082)	0.080 (0.444)
Higher castes	0.212*** (0.086)	0.096*** (0.041)	0.222 (1.053)	1.861*** (0.467)
Constant	9.731*** (0.072)	9.638*** (0.030)	5.538*** (0.959)	2.618*** (0.274)
Observations	999	999	1,000	963
R-Squared	0.137	0.023	0.035	0.036

The results are drawn from OLS regressions.

Huber–White robust standard errors are presented in parentheses.

*** p<0.05, ** p<0.10, * p<0.15.