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Lower in rank, but happier: the complex relationship between status and happiness

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Lower in rank, but happier: the complex relationship between status and happiness[*]

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Abstract

Case studies across the social sciences have established a positive relationship between social status and happiness. In observational data, however, identification challenges remain severe. This study exploits the fact that in India people are assigned a caste from birth. In data on 1000 individuals living in the Punjab, a state with a large income gap between middle and high castes in spite of similar education levels, we find that those in the middle are the least happy. Our findings resemble those described by the famous paradox of unhappy Olympic silver medal winners, which finds a V-shaped relation between status and happiness. The same trend is much less pronounced in data on 1000 individuals living in the state of Andhra Pradesh with much smaller economic differences between castes. We hypothesize that these patterns reflect the relatively high weight of upward comparisons for middle caste groups in Punjab, based on their stronger similarity in ability attributes with castes higher up in the hierarchy.

Keywords: subjective well-being, happiness, social status, social comparison
JEL codes: I31, C1, O12

1 Introduction

Many household surveys contain questions asking respondents about their satisfaction with life (Veenhoven, 2016). There is well-established evidence by now 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. As a result, subjective well-being data have 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 (as there are Devoto *et al.*, 2012; Fafchamps and Shilpi, 2008, 2009; Knight and Gunatilaka, 2010a,b, 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. Veenhoven, 1994; Stevenson and Wolfers, 2008; Easterlin *et al.*, 2010), unemployment (Winkelmann and Winkelmann, 1998) and education (Oreopoulos, 2007). The impact of social status on satisfaction and happiness has proved to be a more complex topic for research, in particular due to measurement 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 (be it family members, neighbours, colleagues or others) from the material dimensions of socio-economic status. They find that the position individuals have on the "local social ladder" is a strong determinant of their life satisfaction level and they relate this to individuals' personal sense of power and control, which is a critical determinant of psychological well-being (Kelt-

ner *et al.*, 2003). Anderson *et al.* (2012)'s work only compares individuals with low social status to individuals with high social status, but the underlying theory suggests that there is a straightforwardly positive correlation between happiness and social status. Such a positive correlation has also been found in other studies, including the one by Haller and Hadler (2006) based on the World Value Survey data.

There is some evidence however that the direction of the relationship between happiness and relative standing is slightly more complex and hence not always straightforwardly positive. A salient illustration of this more complex relationship is provided by Medvec *et al.* (1995), who use three different approaches to study the satisfaction of medalists of the Summer Olympic Games in Barcelona in 1992. They find that bronze medal winners are generally more satisfied than silver medal winners, and the authors 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 and gold medal, while for bronze medalists the comparison is likely to be downward since there is a considerable difference in winning no medal at all and winning a bronze medal. 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 behavior and possibly in lower well-being as well.

This paper aims to contribute new insights to 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 which can sometimes have important consequences for life outcomes. In addition, the explicit hierarchical structure of the caste system makes it a very interesting context 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, which have important similarities in institutions (for belonging to the same country), but also relevant differences in societal context.

Our paper complements earlier work on subjective well-being in India. Two studies conclude, based on different research strategies, that others' income (both from one's own as well as from different castes) does have a depressing impact on happiness in India, especially for lower castes (Fontaine and Yamada, 2014) and those on low incomes (Carlsson *et al.*, 2009).[1] 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. None of these studies exploits 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 that are used in 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.

2   Social Comparison Theory

The subjective well-being literature has advertised the idea that a person's utility is not only determined by absolute conditions (e.g. a higher income), but also by direct comparison of his/her own position relative to others around

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[1]Interestingly, Fontaine and Yamada (2014) use a different classification, merging what we refer to as lower castes (SCST) and middle castes (OBC) together in one category of "lower castes". However, their Table 3 regression results, which provide a more disaggregated view, suggest that OBC are less happy than SCST on average, after controlling for several observed characteristics.

him/her (e.g. Diener, 1984). This finding has its roots in social psychology research. Festinger (1954)'s social comparison theory posits that individuals have a natural tendency to evaluate their opinions and abilities by comparison with others. The ensuing prediction is that people will feel more happy if they find themselves being better off than others (Brickman and Bulman, 1977).

Most studies in economics that investigate comparison mechanisms in satisfaction with income find indeed that people's happiness responds positively to increases in one's own income, but negatively to increases in the income of others (Clark and Oswald, 1996). The comparison effect has sometimes been found to be so strong that an increase of everybody's income by the same proportion will, in sum, lead to unchanged happiness (Luttmer, 2005). This finding has helped to explain the well-known Easterlin paradox (Easterlin, 1995, 2001; Easterlin *et al.*, 2010), which stems from the observation that while for within-country cross-sections, richer people are happier than poorer people, there seems to be no long-run relationship between economic development and happiness.[2]

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 one is up in the hierarchy, the more one is secured against covariate shocks which cause 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 status will continuously invest in making progress instead of opting for the status quo (Clark and Oswald, 1998).

How someone's reference group in social comparison comes about is a complex issue. A reference group can be constituted for example by someone's parents, other family members, colleagues, friends, neighbours, or a mixture of all these categories. But one's reference point and aspirations could as well

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[2]Some other studies find a positive relationship between happiness and reference income, and they 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, 2008).

be influenced by personal characteristics, such as education level or personal interests. To some extent, individuals choose their comparison group strategically. For example, self-improvement interests may encourage individuals to compare themselves with others who are better off in a way (see e.g. Wheeler 1966 for a discussion of upward comparison); while self-enhancement interests may encourage individuals to compare themselves with others that are worse off than one self (see e.g. Wills, 1981 for a discussion of downward comparison).

Nevertheless, individuals should not be considered as having full discretion as to which reference group they select for social comparison. As argued by Wood (1989), the social environment may impose unwanted comparisons. An example can be found in the observation that children's self-esteem tends to be lower if they are surrounded with others of higher ability, than if they are surrounded with others of lower ability (Bachman and O'Malley, 1986).

Festinger (1954)'s *similarity hypothesis* predicts that individuals will compare themselves to other individuals with similar attributes (see also Goethals and Darley, 1977). Along the same lines, the relative deprivation literature suggests that people are more dissatisfied about not having something, when similar others have it (Crosby, 1976). The more different others are, the less likely individuals are to compare themselves to them. The attributes under consideration can be the attribute under evaluation itself (e.g. ability), or a related dimension (e.g. age, experience, education level) (see e.g. Wheeler and Zuckerman (1977)'s *related-attributes similarity hypothesis*). Crosby (1976) illustrates this by arguing that miners are more likely to compare their wages to those of manual workers, than to the salaries of white-collar workers.

In sum, these 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 a higher weight in the comparison. If groups that are better off (upward comparisons) have the highest weight in the reference group, this will have a depressing impact

on individual subjective well-being; if groups that are worse off (downward comparisons) dominate the reference group, this will have a positive impact on subjective well-being.[3]

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 a lot for politics, business networks and career progress (Iversen and Raghavendra, 2006). Although recent economic growth and globalization have led to increased opportunities especially for lower-caste girls (Munshi and Rosenzweig, 2006), caste still plays a major role in determining many socio-economic outcomes, in particular amongst the rural population which constitutes roughly two thirds of India's population (Iversen *et al.*, 2010). 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) 1500-2000 years ago (Basu *et al.*, 2016; Moorjani *et*

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[3]Recent studies such as 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. In general, 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 more serious problem that has also been recognized in other domains in which peer effects are being studied is that it is hard to separate 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. Likewise, in a happiness regression, peer income might be correlated with the same observable and unobservable characteristics as the ones 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 and lab experiments as well as natural field experiments have been able to confirm the findings of earlier observational studies (Fliessbach *et al.*, 2007; Card *et al.*, 2012).

al., 2013).

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

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

A few measures also apply to a list of "Other Backward Classes (OBC)", a list of castes and communities considered as 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 top layer of the SC/ST/OBCs is often referred to as "the creamy layer", as it is made up of individuals who generally already have a better socioeconomic situation and good levels of education, which enables them to optimally exploit the opportunities offered by reservation policies. In our analysis, SC and ST groups are considered together, as is common in the literature, and referred to as "lower castes". OBC groups are considered separately and referred to as "middle castes". Finally, all other castes falling under the varna system are

referred to as "higher castes".

4   Data Collection

For Punjab, a state in the North of India, the household-level data were collected in 2008. In total, 1000 households were selected through a multi-stage sampling method. First, 50 villages were selected across 5 districts through stratified sampling. In each village, 20 households were selected, again based on a stratified sampling strategy.

In AP, a state in the South of India, a similar survey was carried out: 1000 households were interviewed in 50 villages in 2010. In fact, given the large size of the state of AP, the survey could only cover the Southern part of the state, notably the regions referred to as Rayalaseema (the districts Kurnool, Cuddapah, Ananthapur, and Chittoor) and the Southern part of Coastal Andhra (the districts Nellore, Prakasam, Guntur, and Krishna). As such, the survey should be considered only representative for 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 have been collected with identical questionnaires, ensuring that the case studies are more integrated than in many other subjective well-being papers using multiple datasets. This is important since some are concerned that question ordering within a survey and other survey design cahracteristics might have an effect on subjective well-being responses (Smith, 1979). The questionnaire contained questions on socio-demographic characteristics, household composition, employment, business, and agricultural production patterns, consumption, and subjective well-being. The data allow for the calculation of income and consumption levels at the household level.

As consumption tends to be reported with less measurement error than income, and as the former is better smoothed over time, we use consumption

expenditures as our main measure for 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 items, as is usually recommended in the literature (Grosh and Glewwe, 2000).[4]

The subjective well-being question in the survey is specified as follows: "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; very unhappy." These answers are compressed into a 5-point measure by taking categories 5, 6 and 7 together since these contained only very few observations. Next, the happiness measure is encoded in reverse order such that 1 accords with very low happiness, and 5 with very high happiness.

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

As the survey was oversampling some household categories, for all figures and regressions in this paper, appropriate sample weights are used. As is common in the empirical literature, extreme weights were trimmed to avoid instability of our estimations and inflation of sample estimate standard errors.[5]

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[4]In particular, it is calculated as the sum of expenditures on eating/drinking out (reference period: last 7 days), various food and fuel items (reference period: last 30 days), expenditures on salt, spices, tea, coffee, tobacco, bottled drinks, nuts, fuel and lights, entertainment, telecom, toilet articles, household items, transport, house rents, utility fees, staff and medical out-patient services (with a reference period of 30 days) and medical in-patient services, costs related to education, to clothing, furniture, personal care and therapeutical items, repair and maintenance, insurance premiums, holidays and social items (with a reference period of 365 days).

[5]In practice, this means that the 7 lowest sample weights (out of 2000) were slightly scaled up and the 7 highest sample weights were scaled down. Trimming was applied only lightly as strong trimming increases the risk of reducing the representativeness of the sample.

5   Data Analysis

Some key descriptive statistics are documented in Table 1. The first column shows sample means, the last column population means which are derived from the sample data using appropriate weights to correct for the stratified sampling strategy.

Households in Punjab are on average richer, with a per capita consumption level of 20,207 Rs/year (roughly corresponding to 464 USD at the time of the survey) as compared to 17,136 Rs/year in AP (roughly equivalent to 375 USD at the time of the survey). The difference in average consumption expressed in current prices between Punjab and AP is a lower bound of the difference in consumption in real prices, since inflation in India is relatively high and the AP survey took place approximately two years after the Punjab survey. The state-wise rural general price index for Punjab was 465 in April 2008 (base: 1986-1987=100) and 561 in AP in 2010 (Government of India, 2009; 2012).

Nevertheless, households in AP seem to be happier on average than those in Punjab: the average happiness scores are 3.5 in Punjab and 3.8 in AP respectively. While household heads in Punjab are slightly older (47.6 years' old versus 46.3 years' old in AP), and households slightly larger in Punjab (5.4 members on average in Punjab versus 4.7 in AP); there is a substantial difference in the education level of household heads. In Punjab, household heads have attended school for 5 years on average; in AP only for 3.2 years. Our data suggest that 41% of the Punjabi population under study belongs to SCST; and 10% to OBC. The corresponding figures for AP are 28% and 40%, respectively. This is roughly in line with official estimates (Census of India, 2011). The distribution of religion across the two states is quite different: while in our data for Punjab, 85% of the households are Sikh, and 14% are Hindu; in AP, there are no Sikh. Instead, 80% of the population is Hindu, 12% are Christians and 7.5% adhere to Islam.

To explore the relationship between caste on the one hand and subjective well-being (happiness) and two of its main determinants, economic well-being

(measured as consumption per capita) and level of education, on the other hand, we carry out a series of parsimonious regressions for both Punjab and AP.

Since caste is a fixed and predetermined personal characteristic, cross-sectional data suffice for our purpose and no complicated panel data models are needed. Not only does this make the analysis more transparent and easy-to-follow; it also avoids potential technical issues, such as problems of decreasing signal-to-noise ratios (Deaton, 1995) and the problem of panel conditioning (Crossley *et al.*, Forthcoming; Das *et al.*, 2011; Van Landeghem, 2014; Zwane *et al.* 2011), that is, a concern that people's behaviour and/or survey responses are influenced by having participated in a survey before.

Our results are drawn from basic Ordinary Least Squares regressions, with robust standard errors and accounting for sample weights. Since the division of castes is considered a predetermined source of variation in status, we prefer the most simple specification without any controls to increase transparency (Duflo *et al.*, 2008). Indeed, we need to avoid biased estimates due to controlling for endogenous variables, as it is well-known by now that reverse causality is an important issue in the subjective well-being literature (De Neve and Oswald, 2012). Moreover, even in the absence of reverse causality, we need to be aware of potential overcontrolling or, in other words, of including variables that might be influenced by one's caste. The caste to which one belongs is a major socioeconomic determinant, and will have an impact on opportunities in life, earnings potential, the neighbourhood in which one lives etc. Nevertheless, robustness checks are provided that control for consumption levels and education.

The key results of our analysis are presented in Figure 1 and based on estimates documented in Table 2. The vertical bars show the average happiness level for the lower, middle, and higher castes in each region under study, and the horizontal bars indicate the 95% confidence intervals. Figure 2 and Figure 3 present patterns for the log of annual consumption expenditure per capita

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and the number of completed years of education of the household head (the main respondent to 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 as well as education levels being higher in Punjab than in AP. A possible driver could be that income inequality is substantially higher in Punjab than in AP, as 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 and inequality can be seen as a sign of opportunity (Clark, 2003).

As expected, the highest castes are the happiest of all in Punjab, but the least happy are not the lower castes, but the middle castes: happiness follows a V-shaped pattern across the hierarchy of castes. On average, happiness is 0.34 points higher for the lower castes than for the middle castes in Punjab, and 0.67 points higher for the higher castes. In contrast, other key socioeconomic variables such as 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 read from Table 3. For education, the curvature is somewhat different. The average education levels of household heads in the middle and higher castes are similar at 5.5 and 5.8 years, while the lower castes lag significantly behind with on average only 3.9 years of education.

In our AP sample, higher castes are 0.16 points happier than the middle castes, while happiness levels for lower castes are similar to those of middle castes (see Figure 1). Cross-caste patterns of log of annual consumption expenditure per capita and years of education completed by the household head (as depicted in Figure 2 and Figure 3) are different from 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 be-

ing on average 8% lower (although the difference is only weakly statistically significant) for lower castes and 10% higher for higher castes as compared to middle castes. While in Punjab, the education level of middle and high castes are very similar and lower castes are far behind, Figure 3 presents a mirror image for AP. Household heads in the lower castes and middle castes have 2.6 and 2.7 years of education, while those in the higher castes are significantly ahead with around 4.5 years of education.

As Table 2 shows, own consumption only has a significant impact on subjective well-being in AP, which may result from the fact that living standards in AP are still significantly lower than in Punjab. Indeed, there is evidence that the association between consumption and satisfaction is stronger for the poorest. Veenhoven (1991) even argues that living standards matter for subjective well-being only until basic needs are satisfied, notably at the extreme ends of poverty (Freedman, 1978). ,

Education is not found to have a significant association with subjective well-being. This aligns with findings by Palmore (1979) and Palmore and Luikart (1972), who find that the impact of education on happiness is weak.

6   A Tentative Explanation

The observed V-shaped relationship between status and happiness is similar to Medvec *et al.* (1995)'s results on the happiness of Olympic medalists, which offer an interesting example of how the relationship might be more complex.

Our results also align with earlier findings from social psychology research that middle status groups tend to be more insecure and behave more conforming than those with lower or higher status, as 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 may be more self-confident and therefor more willing to take on risks while low-status individuals may 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, behavior which 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 in general 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 the fact 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. If higher castes in Punjab have similar education levels (a proxy for abilities), but higher incomes, such upward comparison may further reduce subjective well-being among middle caste groups. In AP, education levels are less similar between middle and higher castes. Moreover, as the differences in living standards between lower and middle castes are relatively small in AP, the difference may be less observable, with a less depressing impact on well-being for those who have less.[6]

7 Concluding Discussion

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 differ-

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

ent disciplines. Firstly, this interest can be motivated by genuine policy concern about people's happiness, and the ensuing need to explore its determinants. Secondly, as 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 or other variations of self-reported satisfaction are increasing in social status. Theoretical behavioural models which incorporate a preference for status also assume that happiness or utility is increasing in status.

The pattern of subjective well-being we observe across the caste hierarchy is however non-linear, implying that lower castes are at least as happy as middle castes, even after controlling for living standards and education. We hypothesize that this is because middle castes attach more weight to upward comparisons, in line with social psychology research which finds that middle-status individuals are more insecure, and seek more often conforming behaviour, and studies in the Indian context which have found that middle caste individuals are more likely to attempt to claim a higher position 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 where they experience high performance gaps (in terms of income disparities) with higher caste groups, in spite of high similarity in terms of education, which can be considered a proxy for ability. This is in line with seminal work by Festinger (1942) who hypothesized that individuals are more likely to socially compare themselves with others of similar attributes, and to find themselves less happy if those similar others perform better, e.g. in terms of income.

While our case studies can inspire the broader debate on the relationship between status and happiness and can be of importance for the further devel-

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opment of behavioural theories, they should also attract attention because of the sheer size of the population to which they relate. India has over one billion inhabitants, and around two thirds of them live in rural areas. While in urban areas, the caste system is becoming less important due to globalization, our case studies are a reminder that they 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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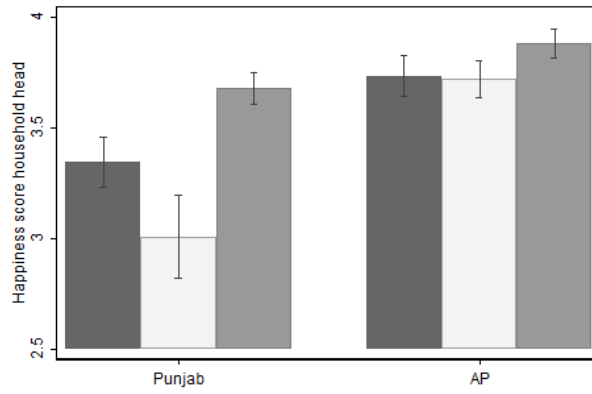**Figure 1: Happiness score by caste**
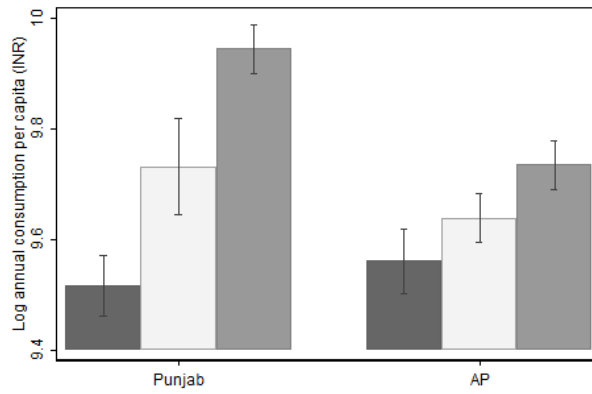

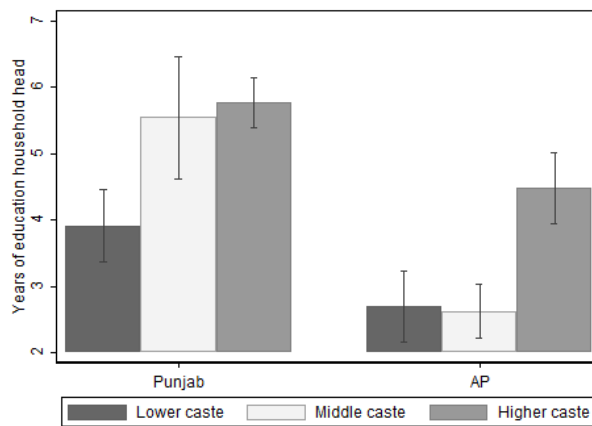**Figure 2: Log (cons. per cap.) by caste**

Figure 3: Years of education by caste

Table 1: Summary statistics

Punjab sample

Variable	Mean	SD	Min.	Max.	N	Pop. Mean
Happiness	3.5	0.89	1	5	1000	3.5
Consumption per capita (Rs/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
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

Andhra Pradesh sample

Variable	Mean	SD	Min.	Max.	N	Pop. Mean
Happiness	3.9	0.70	1	5	990	3.8
Consumption per capita (Rs/year)	17,439	8,975	2,480	89,945	999	17,136
Education household head (years)	3.4	4.6	0	18	963	3.2
Age household head (years)	47.0	11.1	22	82	984	46.3
Nr household members	5.0	2.0	1	16	999	4.7
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	0	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)

	Happiness			
VARIABLES	Punjab	Punjab	AP	AP
Lower castes	0.335*	0.368**	0.015	0.045
	(0.199)	(0.203)	(0.091)	(0.093)
Higher castes	0.672***	0.648***	0.160***	0.150**
	(0.197)	(0.198)	(0.081)	(0.083)
Log (cons per capita)		0.105		0.256***
		(0.127)		(0.080)
Education household head		0.006		0.001
		(0.014)		(0.008)
Constant	3.007***	1.950*	3.718***	1.248*
	(0.176)	(1.252)	(0.069)	(0.797)
Observations	1,000	999	990	953
R-squared	0.053	0.058	0.009	0.032

Robust standard errors in parentheses
*** p<0.05, ** p<0.10, * p<0.15

Table 3: Regression results (Reference group = Middle castes)

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

Robust standard errors in parentheses
*** p<0.05, ** p<0.10, * p<0.15