*Article*

# Lay Conceptions of Modesty in China: A Prototype Approach

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## Abstract

We investigated lay conceptions of modesty in China (谦虚) using a prototype approach. First, a sample of Chinese participants spontaneously listed the characteristics of modest persons. Independent coders then edited these into 112 exemplars, and further grouped them into 34 categories (Study 1). Categories that subsumed more frequently occurring items were deemed more prototypical. Second, another sample of Chinese participants directly rated these categories for how well they corresponded with the concept of modesty (Study 2). Thereafter, frequencies and ratings were algorithmically integrated, permitting categories to be ranked into three broad divisions: central, peripheral, and marginal. Finally, the ordinal validity of divisions was confirmed by having a third sample of Chinese participants rate the modesty of individuals exhibiting traits from within each division (Study 3). Lay conceptions of modesty in China only partly corresponded to those in previous Western samples. Among those categories that were shared, some were central in both China and the West (FRIENDLY, NOT CONCEITED), others only in China (LOW-KEY, POLITE, EASYGOING, AUTHENTIC). Furthermore, several central categories were unique to China (TAKES-CRITICISM, STEADY, CAUTIOUS, ASPIRING). Our findings inform ongoing conceptualizations of modesty in a cross-cultural context.

*Modesty* (谦虚) continues to attract sustained empirical attention, whether as part of research into character virtues (Miller et al., 2015), cultural variations in self-views (Markus & Kitayama, 2010), or the drawbacks of self-enhancement (Sedikides et al., 2015b). Despite the substantial amount of research, there is still no clear consensus about the construct of modesty. One promising approach toward consensus focuses on unpacking lay conceptions of modesty via prototype analysis, as has been on Western samples (Gregg et al., 2008). Lay conceptions of modesty, though themselves diverse and distributed, may nonetheless usefully inform more rigorous scientific definitions of modesty. Yet conceptions of modesty differ across cultures (Xiong et al., 2018). Moreover, the normative value of modesty also varies between Western and Eastern

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cultures (Cai et al., 2011). Hence, to deepen the understanding of modesty in a cross-cultural context, we studied the Chinese prototype of modesty and compared our results with the analogous Western prototype (Gregg et al., 2008).

## The Construct of Modesty

Conceptualizations of modesty vary markedly. One approach treats modesty as an intrapsychic phenomenon—as an intermediate and realistic form of self-conception (Gregg et al., 2008; Sedikides et al., 2007), and different from both self-effacement and self-enhancement. Another approach treats modesty as an interpersonal phenomenon—as a publicly constrained expression that specifically reflects politeness when receiving compliments (Spencer-Oatey & Ng, 2000) or that reflects impression management concerns more generally (Cialdini et al., 1998). Yet other philosophical approaches combine the previous two (Allhoff, 2009), treating modesty as both an intrapersonal attribute (i.e., a disposition not to brag) and an interpersonal behavior (i.e., not actually bragging). Modern trait theory provides an additional framework, intended to be integrative and universal (Ashton et al., 2004; McCrae et al., 2005). Here, modesty can be construed either a component of the Agreeableness factor of the Five Factor Model (Costa et al., 1991) or of the Honesty-Humility factor of the six-factor HEXACO model (Ashton & Lee, 2007).

All the above approaches take the "etic" or pancultural view (Headland et al.,1990; Sedikides et al., 2015a): they assume that there exists an objective neutral way of characterizing and assessing the key construct, modesty. However, other approaches take a more "emic" or culture-bound view: they assume that the key construct, such as modesty, is specific to the social milieu from which it emerges. For example, modesty may be understood, at least partly, as the idiosyncratic product of non-universal norms, which define it geographically or contextually (Cai et al., 2007; Chen et al., 2009; Kurman & Sriram, 2002). Some Chinese indigenous psychologists go even further, questioning the possibility of defining and measuring ethnic constructs in any culture-free way (Ting et al., 2019). Along these lines, recent work has seen the development of a proposed culture-specific measure of modesty (Xiong et al., 2018), which derives from a dualistic model rooted in Chinese tradition. It captures two orthogonal dimensions on which (Chinese) people may score high or low: value modesty, where modest attitudes and actions are themselves the intrinsic goal; and instrumental modesty, where modesty is cultivated for the sake of achieving some extrinsic goal. Given (a) the multiplicity of ways in which modesty has been defined, conceptualized, and measured, and (b) that the construct is liable to exhibit some degree of "emic" cultural specificity, research which helps to refine understanding of modesty may be welcome, especially in a cross-cultural context.

## The Cultural Importance of Modesty in East Asia

Despite a lack of definitional consensus, and its construal being possibly culture-bound, modesty remains a valued trait. For example, Westerners over time come to dislike narcissists, who are dispositionally deficient in modesty (Sedikides & Campbell, 2017), are generally put off by persons who explicitly claim to be superior to others (Hoorens et al., 2012). Yet East Asian cultures appear to place a special premium on modesty. For example, Chinese participants report higher modesty than their U.S. counterparts (Cai et al., 2007). A prominent explanation has been that, whereas Western cultures emphasize independence and uniqueness, East-Asian cultures emphasize interdependence and harmony (Markus & Kitayama, 2010). The latter self-construals put normative pressure on cultural members to view themselves as part of a network of social relationships, and to recognize the social contingency of their deeds. The Confucian proverb "haughtiness invites loss whereas modesty brings benefits" (满招损谦受益) underscores how normative practices with ancient roots may promote modesty (Bond et al., 1982).

Accordingly, modesty is a potent social norm in East Asia. Adhering to it reinforces one's belief that they are "good" members of their culture (Sedikides et al., 2015a). By being modest, the Chinese can maintain relational harmony and enhance their own self-worth (Bond et al., 1982; Cai et al., 2011; Han, 2011) or well-being (Zheng & Wu, 2020). Nevertheless, China has undergone rapid socio-economic growth over the past decades, and there are some empirical signs that modesty is becoming less preferable among its younger generation (Cai et al., 2012; Zhang et al., 2017). As such, it would be interesting to examine, not only the content of the lay conception of modesty in China, but also whether and to what extent that content is evaluated positively, and regarded as reflecting contemporary Chinese norms.

## Exploring Lay Conceptions of Modesty Among the Chinese

As noted above, the literature has yielded an abundance of formulations for modesty. Such formulations prioritize *rigor*: they aim to be both precise and concise, so that the construct can be clearly defined and cleanly differentiated. However, they cannot capture the breadth and depth of the lay concepts of modesty, with all their rich connotations and semantic ramifications. That is, in departing from lay conceptions, the formulations necessarily sacrifice a degree of conceptual *coverage* (Gregg et al., 2008). This is justified: messy lay conceptions are suboptimal for conducting science. Nonetheless, expert formulations must remain rooted in lay conceptions to maintain their original meaning. Furthermore, gaining knowledge of such lay conceptions is valuable, for several reasons.

*First*, it is interesting to know what people understand and mean by psychology-relevant words such as modesty, within the context of their own linguistic community. Such investigations can be construed as a form of psycholexical anthropology, informing the basic structure of personality (John et al., 1988). *Second*, because formulations of scientific constructs retain some aspects of lay conceptions but discard others, it pays to know how prominently both aspects feature in lay conceptions. Without an overriding theoretical justification, scientists might default to retaining more (than less) prominent aspects of lay conceptions. For example, Gregg et al. (2008) found that "not boastful" featured more prominently in Western lay conceptions of modesty than "embarrassed by praise." Hence, a formulation of modesty in the West might opt to include the former over the latter. *Third*, measures and manipulations often include the word for the scientific construct under investigation—usually identical to the word for the corresponding everyday concept. Participants, consisting largely of laypeople, will naturally draw on lay conceptions rather than on expert formulations to understand that word. Hence, their responses to those measures and manipulations will reflect their intuitive understanding—which may not be exactly what the researcher intended. Knowledge of lay conceptions would therefore guide interpretation of all subsequent research that uses such a measure. *Fourth*, the same point applies to the communication of research findings by scientists to laypeople. When a particular finding emerges, implicating a theoretical construct like modesty, the scientist will have in mind their formulation of that construct when they report that finding. However, laypeople may still have in mind their lay conception of that construct. The result may be a miscommunication, possibly unnoticed. *Fifth*, all the above points gain in urgency when they are considered in cross-cultural context. In the case of modesty conceptions and evaluations are liable to differ between Easterners and Westerners, which both complicates the choice of aspects of lay conceptions to be adopted by expert formulations, and generally increases the scope for inconsistent meanings and mutual misunderstandings within and between experts and laypeople.

For all these reasons, we pursued a bottom-up *prototype approach* to characterizing lay conceptions of modesty in China. Our research follows a well-developed tradition. Some such studies have explored constructs affecting the quality of personal relationships (Hassebrauck, 1997), such as love (Regan et al., 1998) and commitment (Fehr, 1988). Others have explored prosocial

emotions, including nostalgia (Hepper et al., 2012) and gratitude (Lambert et al., 2009). Still others have explored the overarching construct of emotion (Shaver et al., 1987), negative emotions such as hate, fear, and jealousy (Fitness & Fletcher, 1993), undesirable motivations such as greed (Seuntjens et al., 2015), and cognitive constructs such as intelligence, creativity, and wisdom (Sternberg 1985).

We also aimed to facilitate cross-cultural analysis by comparing and contrasting our findings, obtained via Chinese samples, with those from analogous investigation by Gregg et al. (2008), obtained via UK and US samples. Several studies have considered lay conceptions cross-culturally. Non-Western cultures, for example, construe intelligence as involving social competence to a greater degree than Western cultures (Cocodia, 2014). In addition, within East Asian culture, mainland Chinese and Taiwanese Chinese show partly overlapping and partly distinctive lay conceptions of creativity (Rudowicz & Yue, 2000); and within Western culture, UK (compared to US) participants show more ambivalent lay conceptions of gratitude (Morgan et al., 2014).

What are the primary features of the *prototype approach*? It starts from the recognition that lay conceptions of constructs like modesty are not only richer than corresponding expert formulations, but fuzzier too. That is, they lack necessary or sufficient defining conditions and instead consist of categories exhibiting a loose family resemblance (Rosch, 1978). Nonetheless, the categories in question may be ranked in terms of how *prototypical* of the construct they are (i.e., how *central* they are to its meaning). Several types of information permit such rankings to be generated, thereby enabling the lay conception to be intelligibly unpacked.

Accordingly, we had a sample of native Chinese participants spontaneously generate characteristics that they regarded as typical of modest persons (Study 1). We then took these characteristics, edited them into representative exemplars, and classified these into meaningful categories, before ranking those categories by their relative frequency of occurrence—one intuitive index of their centrality. Next, as an additional indication of prototypicality, we had another sample of native Chinese participants rate these categories for their correspondence with the construct of modesty—a direct index of their centrality (Study 2)—as well for positivity and cultural importance. To characterize the categories further, we had these participants simultaneously rate the categories for their normative importance and general valence. Going beyond past research, we also devised an algorithm to integrate the information about centrality from both studies. On this basis, we grouped the categories more broadly into central, peripheral, and marginal divisions, for the purposes of summarizing our results and making cross-cultural comparisons. Finally, we tested the ordinal validity of these divisions (Study 3). In particular, we had a further sample of native Chinese participants rate the modesty of hypothetical people whose personalities featured categories from only one of each of the three divisions, as well as none of these three divisions. Furthermore, we compared our results to, and contrasted them from, estimates from a parallel investigation in Western samples (Gregg et al., 2008).

## Study 1: Categorizing the Content of the Lay Concept of Modesty

### Participants

Participants comprised 111 Chinese university students (60 women, 51 men). They ranged in age from 18 to 36 years ($M = 23.96$, $SD = 4.32$). We recruited them via advertisements posted at 25 Beijing-based universities (e.g., Beijing Forestry University, China Agricultural University, University of Chinese Academy of Sciences). The study was conducted in small groups in the laboratory. We paid each participant CNY5 ($\approx$USD 0.70). The sample was regionally diverse. Specifically, participants lived in 58 cities across 24 different provinces. Also, 62 of them lived in urban areas, and 48 in rural areas (one did not report).

## Materials and Procedure

We instructed participants to "list as many characteristics as possible of people whom you believe to be *modest* (请尽可能多地写出你眼中 谦虚 的人的特点)."[1] We informed them they could use either single trait words or short phrases, and there were no right or wrong answers.

## Results and Discussion

*Exemplar generation.* Participants initially generated a total of 670 items (5–8 each, $M = 6.04$, $SD = 1.09$), of which 368 were lexical non-duplicates. However, rather than treat these items immediately as exemplars for sorting into categories, we first consolidated them through a process of preliminary editing. This was necessary because many items, despite their superficial lexical dissimilarity, were essentially semantically equivalent, due to the greater flexibility of the Chinese idiom, which affords language-users an abundance of alternative ways to convey the same idea. Accordingly, to abstract the latent gist from the manifest expression, and to avoid falling prey to a version of the *jangle fallacy* (whereby a shared name implies an identical referent; Larsen & Bong, 2016), the principal investigator and a graduate student specializing in Chinese language collaborated to re-phrase items that featured more roundabout wordings (i.e., classic Chinese idioms, compound phrases, short sentences) into more simple and familiar terms. This process resulted in each of 368 items being categorized as one of 112 exemplars. However, given the potential subjectivity of these judgments, we asked a pair of coders to judge independently whether each of the 368 items was properly subsumed by its exemplar. Both concurred nearly unanimously that this was the case (96% and 97%). We also asked them to judge independently whether the name ascribed to each of 112 exemplars captured properly the general character of the items that it subsumed. Again, both coders concurred nearly unanimously that this was the case (92% and 96%).

*Exemplar categorization.* Generating the list of edited exemplars was only an interim step: ultimately, we sought to group them into a yet smaller set of interpretable categories based on shared meaning. Accordingly, the principal investigator and a graduate student collaborated to condense the 112 exemplars further into a set of 51 exhaustive and exclusive categories (46 preserved; 66 grouped further). Thereafter, a further pair of coders independently indicated whether they agreed with each of these decisions. They respectively did so 71% and 81% of the time. Given that the levels of agreement achieved were moderate, the principal investigator and the graduate student engaged in further discussions, and went on to condense the 112 exemplars into 47 categories (42 preserved; 70 grouped further). A final coder independently indicated whether or not they agreed with each of these decisions. As they did so 96% of the time, we retained this revised set of categories.

We then whittled down our category set still further, on two additional grounds. First, 12 of our 47 categories subsumed an exemplar that occurred only once (i.e., constituted a *hapax legomenon*). Accordingly, we duly discarded these idiosyncratic categories as non-diagnostic of the lay concept of modesty in China. Second, we excluded from our analysis 18 items often translated into English as "humility" or "humble" (谦逊, 谦卑, 谦恭). This was because in Chinese, unlike in English, such terms merely convey different degrees of "modesty" (谦虚)—specifically an excess thereof—rather than conveying a qualitatively distinct meaning. That is, they are essentially near synonyms for modesty. Accordingly, we also excluded the single corresponding category that subsumed those items (but see General Discussion).

This left us with 34 categories subsuming 640 items. We list all these categories in Table 1, ranked by the frequency with which they subsumed items. We also list in parallel corresponding categories, derived from previous research on Western samples. (see Supplemental Material, Section B, for further information on the exemplars subsumed by the 34 categories.)

**Table 1.** Study 1: Chinese and English Names for the Categories Comprising Chinese Lay Conceptions of Modesty, Sorted by the Frequency of Their Exemplars, Alongside Equivalent Categories from Gregg et al. (2008).

| Frequency index | Category name | | Equivalent categories in Gregg et al. (2008) |
| --- | --- | --- | --- |
| | Chinese | English | |
| 73 | 低调 | LOW-KEY | Attention-avoiding <br> *Unobtrusive unassuming* |
| 48 | 友善 | FRIENDLY | **Solicitous** |
| 42 | 礼貌 | POLITE | *Polite* |
| 35 | 随和 | EASYGOING | *Easygoing* |
| 33 | 尽责 | CONSCIENTIOUS | - |
| 32 | 不自负 | NOT CONCEITED | **Not boastful** <br> Not arrogant |
| 29 | 有才能 | CAPABLE | - |
| 29 | 踏实 | STEADY | - |
| 28 | 上进 | ASPIRING | - |
| 27 | 从容 | CALM | - |
| 27 | 真诚 | AUTHENTIC | Honest <br> *Unpretentious* |
| 26 | 谨慎 | CAUTIOUS | - |
| 25 | 优雅 | GRACEFUL | *Gentle* |
| 22 | 虚心 | TAKES-CRITICISM | - |
| 20 | 宽容 | MAGNANIMOUS | Gracious |
| 19 | 安静 | QUIET | - |
| 17 | 善于思考 | REFLECTIVE | - |
| 18 | 内向 | INTROVERTED | **Shy** <br> *Embarrassed by praise* |
| 19 | 勤奋 | HARDWORKING | - |
| 20 | 淡泊 | UNWORDLY | - |
| 21 | 乐观 | OPTIMISTIC | - |
| 22 | 卑己尊人 | OTHERS-UP-ME-DOWN | *Self-effacing* |
| 23 | 客观 | OBJECTIVE | - |
| 24 | 受欢迎 | LIKEABLE | Likeable |
| 25 | 善于倾听 | GOOD LISTENER | *Good listener* |
| 26 | 自信 | CONFIDENT | *Confident* |
| 27 | 成熟 | MATURE | - |
| 28 | 自律 | SELF-DISCIPLINED | - |
| 29 | 有策略 | TACTICAL | - |
| 30 | 善于交际 | SOCIABLE | - |
| 31 | 不自信 | NOT CONFIDENT | *Insecure* |
| 32 | 朴实 | PLAIN | Plain |
| 33 | 坚定 | DETERMINED | - |
| 34 | 虚伪 | HYPOCRITICAL | - |

*Note.* Column 1 lists the frequency with which each of categories listed subsumed the exemplars generated. Column 2 lists category names in Chinese, and Column 3 their counterparts in English. Column 4 lists the categories featured in Gregg et al. (2008) judged equivalent to the categories identified here. Categories in Column 4 are **emboldened if central**, underlined if peripheral, and *italicized if marginal*. Three categories featured in Gregg et al. (2008)'s research do not appear, not having being judged to have a Chinese counterpart: **humble**, *content*, and *selfless*.

**Table 2.** Study 2: Chinese and English Names for the Categories Comprising Chinese Lay Conceptions of Modesty, Sorted by Their Rated Correspondence with Modesty, featuring Ratings of their Normative Importance and General Valence, Alongside Equivalent Categories from Gregg et al. (2008).

| Category name | | Correspondence with modesty (ratings index) | Normative importance | General valence | Equivalent categories in Gregg et al. (2008) |
|---|---|---|---|---|---|
| Chinese | English | M (SD) | M (SD) | M (SD) | |
| 虚心 | TAKES-CRITICISM | 2.96↑ (2.40) | 5.89↑ (0.89) | 5.41↑ (1.18) | - |
| 礼貌 | POLITE | 2.67↑ (1.60) | 6.25↑ (0.84) | 5.89↑ (0.88) | *Polite* |
| 低调 | LOW-KEY | 2.60↑ (1.62) | 5.20↑ (1.10) | 4.99↑ (1.05) | Attention-avoiding *Unobtrusive* *Unassuming* |
| 善于倾听 | GOOD LISTENER | 2.22↑ (1.53) | 6.04↑ (0.93) | 5.80↑ (0.84) | *Good listener* |
| 不自负 | NOT CONCEITED | 2.14↑ (1.92) | 5.60↑ (1.11) | 5.27↑ (0.87) | **Not boastful** Not arrogant |
| 真诚 | AUTHENTIC | 1.99↑ (1.75) | 6.30↑ (0.75) | 5.84↑ (0.89) | Honest *Unpretentious* |
| 随和 | EASYGOING | 1.93↑ (1.60) | 5.70↑ (0.98) | 5.23↑ (0.99) | *Easygoing* |
| 友善 | FRIENDLY | 1.83↑ (1.81) | 6.10↑ (0.93) | 5.91↑ (0.90) | **Solicitous** |
| 踏实 | STEADY | 1.74↑ (1.56) | 6.20↑ (0.93) | 5.88↑ (0.84) | - |
| 谨慎 | CAUTIOUS | 1.73↑ (1.64) | 5.62↑ (0.98) | 5.01↑ (1.02) | - |
| 朴实 | PLAIN | 1.59↑ (1.61) | 5.85↑ (1.00) | 5.43↑ (0.97) | Plain |
| 卑己尊人 | OTHERS-UP-ME-DOWN | 1.58↑ (2.45) | 4.41↑ (1.69) | 4.28 (1.66) | *Self-effacing* |
| 受欢迎 | LIKEABLE | 1.56↑ (1.70) | 5.62↑ (1.09) | 5.81↑ (0.90) | Likeable |
| 淡泊 | UNWORDLY | 1.54↑ (1.86) | 5.02↑ (1.06) | 4.60↑ (1.10) | - |
| 上进 | ASPIRING | 1.52↑ (1.74) | 6.33↑ (0.79) | 6.26↑ (0.80) | - |
| 成熟 | MATURE | 1.52↑ (1.61) | 5.85↑ (0.90) | 5.43↑ (1.05) | - |
| 宽容 | MAGNANIMOUS | 1.49↑ (1.73) | 6.00↑ (1.04) | 5.69↑ (0.96) | Gracious |
| 自律 | SELF-DISCIPLINED | 1.44↑ (1.74) | 6.25↑ (0.81) | 5.94↑ (0.95) | - |
| 尽责 | CONSCIENTIOUS | 1.28↑ (1.91) | 6.28↑ (0.84) | 6.09↑ (0.87) | - |
| 自信 | CONFIDENT | 1.26↑ (1.88) | 6.38↑ (0.77) | 6.21↑ (0.80) | *Confident* |
| 从容 | CALM | 1.23↑ (1.81) | 5.93↑ (0.93) | 5.58↑ (0.96) | - |
| 善于思考 | REFLECTIVE | 1.20↑ (1.85) | 6.27↑ (0.76) | 6.04↑ (0.89) | - |
| 有策略 | TACTICAL | 1.20↑ (1.81) | 6.00↑ (0.91) | 5.84↑ (0.90) | - |
| 勤奋 | HARDWORKING | 1.19↑ (1.60) | 6.36↑ (0.83) | 6.16↑ (0.94) | - |
| 坚定 | DETERMINED | 1.19↑ (1.70) | 6.07↑ (0.88) | 5.84↑ (0.95) | - |
| 乐观 | OPTIMISTIC | 1.14↑ (1.90) | 6.05↑ (0.93) | 6.00↑ (0.95) | - |
| 客观 | OBJECTIVE | 1.06↑ (1.74) | 5.72↑ (1.08) | 5.14↑ (1.01) | - |
| 善于交际 | SOCIABLE | 1.06↑ (1.53) | 5.99↑ (1.12) | 6.01↑ (0.89) | - |
| 优雅 | GRACEFUL | 1.02↑ (1.70) | 5.44↑ (1.08) | 5.48↑ (0.91) | *gentle* |
| 有才能 | CAPABLE | 0.94↑ (1.84) | 6.25↑ (0.84) | 5.94↑ (0.97) | - |
| 安静 | QUIET | 0.83↑ (1.46) | 4.52↑ (1.07) | 4.42↑ (0.88) | - |
| 内向 | INTROVERTED | 0.44 (1.81) | 3.28↓ (1.32) | 3.49↓ (1.11) | **Shy** *Embarrassed by praise* |
| 不自信 | NOT CONFIDENT | −0.73↓ (2.10) | 2.27↓ (1.64) | 2.38↓ (1.02) | Insecure |
| 虚伪 | HYPOCRITICAL | −2.56↓ (2.65) | 2.20↓ (1.82) | 2.16↓ (1.27) | - |

*Note*. Column 1 lists category names in Chinese, and Column 2 their counterparts in English. Columns 3 and 4 pertain to the ratings index (i.e., how well the categories generated in Study 1 correspond with the lay conception of modesty: range: −5 to +5). Columns 5 and 6 pertain to ratings of how positive or negative the categories were (range: +1 to +7). Columns 7 and 8 pertain to ratings how normatively important those categories were to Chinese culture (range: +1 to +7). Values in (brackets) to the right of each mean value represent standard deviations. "↑" and "↓" respectively mean significantly higher and lower than scale midpoint at $p < .05$. Column 9 lists the categories featured in Gregg et al. (2008) judged equivalent to the categories identified here. Categories in Column 9 are **emboldened if central**, underlined if peripheral, and *italicized if marginal*. Three categories featured in Gregg et al. (2008)'s research do not appear, not having being judged to have a Chinese counterpart: **humble**, *content*, and *selfless*.

*Cross-cultural equivalents.* Gregg et al. (2008) attempted to characterize lay conceptions of modesty among Western (i.e., UK and US) participants. Based on several combined criteria, they concluded that modesty consisted of the following categories: 4 **central** ones (**humble**, **shy**, **solicitous**, **not boastful**); 6 peripheral ones (honest, likeable, not arrogant, attention-avoiding, plain, gracious); and 13 *marginal* ones (*unassuming, polite, confident, easygoing, good listener, insecure, unobtrusive, gentle, embarrassed by praise, self-effacing, content, selfless, unpretentious*). (Note that, to aid comprehension on immediate inspection, **central** categories are **emboldened**, peripheral categories are underlined, and *marginal* categories are *italicized*). To facilitate comparison between our findings and those of Gregg et al. (2008), we recruited two graduate students, specializing in Chinese-English translation, to derive equivalents of our categories in English. After the first pass at translation, we conferred with the second author, before finalizing the list. Finally, we invited a pair of new coders to judge independently whether or not they agreed with each item on the list. They agreed in all cases except two—*content* and *selfless* (see below).

*First*, our team identified six of our new categories that may be considered essentially identical to six of the original categories derived by Gregg et al. (2008): 随和/EASYGOING = *easygoing*; 有礼貌/POLITE = *polite*; 受欢迎/LIKEABLE = likeable; 自信/CONFIDENT = *confident*; 善于倾听/GOOD LISTENER = *good listener*; 朴素/PLAIN = plain.

*Second*, our team identified five new categories that—although some tended to be a little broader in scope—may still be considered semantically similar to five of the original ones: 友善/FRIENDLY ≈ **solicitous**; 宽容/MAGNANIMOUS ≈ gracious; 优雅/GRACEFUL ≈ *gentle*; 卑己尊人/OTHERS-UP-ME-DOWN ≈ *self-effacing;* 不自信/NOT CONFIDENT ≈ *insecure*.

*Third*, our team identified four new categories that—being considerably broader in scope—each encompassed several of the original categories: 低调 / LOW-KEY ≈ [attention-avoiding, *unobtrusive, unassuming*]; 不自负 / NOT CONCEITED ≈ [**not boastful**, not arrogant]; 真诚/AUTHENTIC ≈ [honest, *unpretentious*]; 内向 / INTROVERTED ≈ [**shy**, *embarrassed by praise*]).

*Fourth*, our team identified no fewer than 19 new categories specific to our sample, which had no prior cross-cultural equivalents, and were therefore potentially distinctive of the lay concept of modesty in China: 尽责 / CONSCIENTIOUS, 有才能/CAPABLE, 踏实/STEADY, 上进/ASPIRING, 从容/CALM, 谨慎/CAUTIOUS, 虚心/TAKES-CRITICISM, 安静/QUIET, 善于思考/REFLECTIVE, 勤奋/HARDWORKING, 淡泊/UNWORDLY, 乐观/OPTIMISTIC, 客观/OBJECTIVE, 成熟/MATURE, 自律/SELF-DISCIPLINED, 有策略/TACTICAL, 善于交际/SOCIABLE, 不自信/NOT CONFIDENT, 坚定/DETERMINED, 虚伪/HYPOCRITICAL.

*Interim conclusions.* We drew the following interim conclusions. *First*, although there was a substantial overlap between the categories composing lay concepts of modesty in our Chinese sample, and the categories composing it in previous Western samples, there was also a substantial divergence. Specifically, of the 34 categories identified here, 15 were shared with Western samples, but 19 were unique to our Chinese sample. These shared and unique categories respectively subsumed 300 (45.6%) and 358 (54.4%) of items. In addition, a few of the categories listed in Gregg et al. (2008) did not make an appearance in our sample. One central category, **humble**, did not feature, because, as mentioned above, the Chinese terms for "humble" are essentially variants of the word for "modesty." In addition, we kept two marginal categories—*content* and *selfless*—distinct, because our two independent coders categorized them inconsistently—respectively mapping the former on to UNWORLDY and OPTIMISTIC, and the latter on to MAGNANIMOUS and UNWORLDY. Overall, it follows that the everyday meaning of modesty in the minds of Chinese people and Westerners is *not* equivalent. Extrapolating from our sample, their semantic content corresponds less than half the time.

*Second*, given that the Chinese sample yielded substantially more categories (i.e., 34) than the Western sample (i.e., 23), the Chinese lay concept of modesty emerged as richer than the Western concept of modesty. This is especially noteworthy, given that the 34 final categories at which we arrived represented a semantic amalgamation of the original set of 112 exemplars used to make sense of the items. Moreover, the overlap between the sets of lay conceptions was asymmetric: Chinese lay conceptions of modesty encompassed Western lay conceptions of modesty (20 out of 23 = 87.0%) more than vice versa (15 out of 34 = 44.1%).

*Third*, there was only partial concordance in the degree to which equivalent categories initially emerged as central across the Chinese and Western samples (Table 1, rightmost column). Central categories are again highlighted in **bold**, peripheral categories by an underline, and marginal categories by *italics*. All three types of categories are represented both in the top half (i.e., high frequency) and the bottom half (i.e., low frequency) of the table. Hence, even where the categories constituting the lay concept of modesty overlapped cross-culturally, their relative significance—at least in terms of the frequency with which they subsumed items—varied considerably. Among the key specific findings is that the highest-frequency category we identified here—LOW-KEY—encompassed categories that in Western samples were only marginal (attention-avoiding) or peripheral (e.g., *unobtrusive*). Conversely, a very low frequency category identified here—INTROVERTED—encompassed a central category in Western samples (**shy**). On the other hand, the category FRIENDLY, which here emerged as the second most frequency, did roughly correspond with the central category **solicitous** in Western samples.

## Study 2: Rating the Categories Underlying the Lay Concept of Modesty

Inferring the centrality of categories from the frequency with which they subsume items carries with its limitations. To begin, the item categorization process inevitably involves some degree of subjectivity. In addition, material that comes to mind spontaneously, although it may be implicitly indicative of levels of category centrality, is not the only possible index thereof. What lay persons explicitly judge to be central or non-central also counts. That is, the importance of categories to a lay definition can be legitimately determined, not only by exploiting the more spontaneous, associative, or impulsive aspects of participants' cognition, but also by exploiting their more deliberative, propositional, or reflective aspects (Strack & Deutsch, 2004).

Accordingly, in Study 2, we took the same set of 34 categories that we derived in Study 1, and had a comparable sample of Chinese lay persons explicitly rate them for how well they corresponded to the concept of modesty (and on two other dimensions, to test validity). This gave us an additional index—and a far from redundant one—of the centrality of our categories, on the basis of which we could strengthen or moderate the conclusions drawn from Study 1.

### Participants

Participants comprised 81 Chinese individuals (48 women, 33 men). They ranged in age from 20 to 51 years ($M = 31.23$, $SD = 7.35$). We recruited them via *surveybaby.com*, a Chinese online survey site plus crowdsourcing platform. We paid each participant CNY5 ($\approx$USD 0.70). The sample was diverse. Geographically speaking, participants reported living in 22 different provinces, including at least 33 different cities (although 34 did not report any specific city). Nearly two-thirds (55) lived in urban areas, and more than one-third (26) in rural ones. Occupationally speaking, only five participants were full-time students, with most being variously employed as factory workers, mangers, salesmen, and so on. Educationally speaking, about half (44) had a BA, about

a quarter (20) an Associate degree, and a handful either a PhD (1) or Master's degree (3); the remainder had a high school diploma (13).

## Materials and Procedure

Participants completed all ratings online. We presented, in random order, the 34 categories generated in Study 1, and invited participants to rate each one in three ways. More critically, participants rated each category on an 11-point scale for how well it corresponded to the concept of modesty in terms of its degree of semantic relationship ($-5$ = *negatively related*, $0$ = *unrelated*, $5$ = *positively related*). This served as our ratings index (as opposed to frequency index) of category centrality.

Moreover, to help validate the ratings index, participants also rated each category on 7-point scales in terms of (a) its general valence—how positively or negatively they regarded it ($1$ = *very negatively*, $4$ = *neutrally*, $7$ = *very positively*), and (b) its normative importance to Chinese culture ($1$ = *not at all important*, $4$ = *intermediately important*, $7$ = *very important*).

## Results and Discussion

*Rating results.* We list these ratings in Table 2. Modesty is both prized by, and culturally relevant to, Chinese laypersons (Cai et al., 2011). Hence, if ratings of category centrality were valid, then those ratings should have correlated positively and strongly with ratings of those categories' general valence and normative importance. They did, $r(33)$ = .67, $p$ < .001, and $r(33)$ = .72, $p$ < .001, respectively.

Furthermore, taking a grand mean across all 34 categories, the categories emerged as positive overall ($M$ = 5.34, $SD$ = 0.99) compared with the grant mid-point, $t(33)$ = 7.87, $p$ < .001, $d$ = 1.35, and as important overall ($M$ = 5.67, $SD$ = 1.07) compared with the grand mid-point, $t(33)$ = 8.56, $p$ < .001, $d$ = 1.56. Indeed, with rare exceptions, all categories, taken individually, also emerged as significantly more positive than not, and as individually more important than not, relative to the scale midpoint (all $p$s < .05). The only exceptions were OTHERS-UP-ME-DOWN (neutral; but important to the Chinese), as well as INTROVERTED, NOT CONFIDENT, and HYPOCRITICAL (negative; but unimportant to the Chinese). However, these categories accounted for relatively few exemplars (1.3%, 2.5%, 0.4%, and 0.3%, respectively).

Even more crucially, taking a grand mean across all 34 categories, the items emerged collectively as indicative of modesty overall, relative to the grand midpoint ($M$ = 1.35, $SD$ = 0.96), $t(33)$ = 8.22, $p$ < .001, $d$ = 1.41. Moreover, all categories, taken individually were judged to be more indicative of modesty than not, all $p$s < .05—except for INTROVERTED, NOT CONFIDENT and HYPOCRITICAL (compare above). Finally, the frequency index of centrality from Study 1 correlated strongly with the ratings index of centrality from Study 2, $r(32)$ = .48, $p$ = .004. All these findings attest to the validity of the categories that we generated earlier from items, with only a few minor question marks.

Still, the fact that each index of category centrality accounted for about 23% of the variance of the other leaves plenty of room for each index to convey non-redundant information about centrality. Accordingly, we sought to integrate the information derived from both indices.

*Integrating the results of studies 1 and 2.* Our ultimate goal was to identify whether, based on the results of both studies, each of the 34 retained categories was either high or low in centrality, with a view—for the purposes of simplicity, and in keeping with past practice—to designating each category to be either central, peripheral, or marginal, insofar as it featured as part the lay conception of modesty among the Chinese.

However, doing so presented a challenge: How should one *combine* the information about frequency from Study 1 with information about ratings from Study 2? The frequency index and the rating index differed from one another markedly. First, the former was the product of more implicit measurement—predominantly reflecting the ease with which exemplars of modesty spontaneously come to mind; the latter, on the other hand, was the product of more explicit measurement—predominantly reflecting conscious judgments about modesty's meaning. Second, the two indices also are reflecting different level of measurement, namely, nominal-level counts versus interval-level scores. Additionally, the question arises of which of the indices, if either, to consider primary, and which secondary.

Gregg et al. (2008) adopted the following approach with respect to combining two indices of category centrality. One index involved item frequency—like the current research. The other index involved item priority: here, categories were defined as having higher priority if the items composing them were mentioned earlier rather than later among the lists of items participants generated. Gregg et al. deemed the frequency index primary and the priority index secondary. Accordingly, they used frequency data alone to sort categories into broader central, peripheral, and marginal divisions, but then used priority data to sort out the relative importance of categories within those divisions (Table 1, p. 983). Subsequent studies did not revisit the issue, focusing solely on validating the broader divisions so derived.

In retrospect, Gregg et al.'s (2008) algorithm for combining information about category frequency and priority, although defensible, was less systematic than it might have been. Some more general algorithm—which assumes the indices have equal value and treats them in equivalent ways—might be preferable. The algorithm should also define category boundaries in a simple and definite way rather than leaving researchers to impose arbitrary cutoffs upon continuous scores. Accordingly, we developed such an algorithm here, which may be of value to other researchers adopting a prototype approach.

To begin, we equalized the otherwise highly divergent metrics along which exemplar frequency and rated prototypicality were scaled by taking *z*-scores of each. This practice permitted us to use an initial "two thumbs" heuristic to divide categories into broader divisions. The heuristic relied on the arithmetical signs of the z-scores for category frequency and category ratings respectively (above or below zero). Where both were positive ("two thumbs up"), a category could be deemed central; where both were negative ("two thumbs down"), a category could be deemed marginal; and where one was positive and the other negative ("one thumb up, on thumb down"), a category could be deemed peripheral. Such an approach considers all relevant data, extrapolates from an empirically derived midpoint, and weights metrics equally.

However, an intuitive limitation to this initial heuristic suggests itself. Suppose scores for a category, while being slightly below zero on one index, were substantially above zero on the other index; or suppose scores for a category, while being slightly above zero on one index, were also substantially below zero on the other index. Some "extra credit" should be given for such extreme departures, such that the categories in question should not be properly counted as peripheral, but respectively as central or marginal. (Compare: Olympic medals are not awarded based on average performance but on the most exceptional performance.) Accordingly, a revised heuristic, defining what counts as a substantial departure, is in order. A convenient criterion is "in excess of 1 standard deviation from the midpoint of zero." Hence, categories with a score meeting this criterion gain an extra (positively signed) "thumb up" or (positively signed) "thumb down." A further implication is that a category substantially above zero on one index, and substantially below it on another, would still qualify as peripheral, as the two "thumbs up" and two "thumbs down" would then cancel out. (One can also imagine the approach being flexibly extended, with more complex rules, to more than two indices, as well as, if necessary, multiplying *z*-scores for each index by unequal values to capture differences in index importance).

**Table 3.** Studies 1 and 2: Chinese and English Names of the Categories Comprising Chinese Lay Conceptions of Modesty, Sorted by the Mean z-scores of Their Frequency and Ratings Indices, showing Division Membership Alongside Equivalent Categories from Gregg et al. (2008).

| Category label | | z-Scores of indices | | Combined | | Equivalent categories in Gregg et al. (2008) |
|---|---|---|---|---|---|---|
| Chinese | English | Frequency | Ratings | Mean | Division | |
| 低调 | LOW-KEY | 3.49 | 1.33 | 2.41 | **Central** | Attention-avoiding, *Unobtrusive* *Unassuming* |
| 礼貌 | POLITE | 1.47 | 1.40 | 1.44 | **Central** | *Polite* |
| 友善 | FRIENDLY | 1.86 | 0.51 | 1.19 | **Central** | **Solicitous** |
| 虚心 | TAKES-CRITICISM | 0.17 | 1.71 | 0.94 | **Central** | — |
| 不自负 | NOT CONCEITED | 0.82 | 0.84 | 0.83 | **Central** | **Not boastful** Not arrogant |
| 随和 | EASYGOING | 1.02 | 0.62 | 0.82 | **Central** | *Easygoing* |
| 真诚 | AUTHENTIC | 0.50 | 0.68 | 0.59 | **Central** | Honest *Unpretentious* |
| 踏实 | STEADY | 0.63 | 0.42 | 0.52 | **Central** | — |
| 谨慎 | CAUTIOUS | 0.43 | 0.41 | 0.42 | **Central** | — |
| 尽责 | CONSCIENTIOUS | 0.89 | −0.07 | 0.41 | Peripheral | — |
| 上进 | ASPIRING | 0.56 | 0.18 | 0.37 | **Central** | — |
| 从容 | CALM | 0.50 | −0.12 | 0.19 | Peripheral | — |
| 有才能 | CAPABLE | 0.63 | −0.43 | 0.10 | Peripheral | — |
| 宽容 | MAGNANIMOUS | 0.04 | 0.15 | 0.10 | **Central** | Gracious |
| 善于倾听 | GOOD LISTENER | −0.74 | 0.93 | 0.09 | Peripheral | *Good listener* |
| 优雅 | GRACEFUL | 0.37 | −0.35 | 0.01 | Peripheral | *Gentle* |
| 善于思考 | REFLECTIVE | −0.02 | −0.16 | −0.09 | *Marginal* | — |
| 淡泊 | UNWORLDLY | −0.54 | 0.20 | −0.17 | Peripheral | — |
| 卑己尊人 | OTHERS-UP-ME-DOWN | −0.67 | 0.25 | −0.21 | Peripheral | *Self-effacing* |
| 勤奋 | HARDWORKING | −0.28 | −0.17 | −0.23 | *Marginal* | — |
| 受欢迎 | LIKEABLE | −0.74 | 0.23 | −0.26 | Peripheral | Likeable |
| 安静 | QUIET | −0.02 | −0.55 | −0.29 | *Marginal* | — |
| 成熟 | MATURE | −0.87 | 0.18 | −0.34 | Peripheral | — |
| 自律 | SELF-DISCIPLINED | −0.87 | 0.10 | −0.39 | Peripheral | — |
| 朴实 | PLAIN | −1.06 | 0.26 | −0.40 | *Marginal*† | Plain |
| 乐观 | OPTIMISTIC | −0.67 | −0.22 | −0.45 | *Marginal* | — |
| 自信 | CONFIDENT | −0.80 | −0.09 | −0.45 | *Marginal* | *Confident* |
| 客观 | OBJECTIVE | −0.67 | −0.30 | −0.49 | *Marginal* | — |
| 有策略 | TACTICAL | −0.93 | −0.16 | −0.55 | *Marginal* | — |
| 内向 | INTROVERTED | −0.15 | −0.96 | −0.56 | *Marginal* | **Shy** *Embarrassed by praise* |
| 坚定 | DETERMINED | −1.13 | −0.17 | −0.65 | *Marginal* | — |
| 善于交际 | SOCIABLE | −1.00 | −0.30 | −0.65 | *Marginal* | — |
| 不自信 | NOT CONFIDENT | −1.06 | −2.21 | −1.63 | *Marginal* | *Insecure* |
| 虚伪 | HYPOCRITICAL | −1.13 | −4.15 | −2.64 | *Marginal* | — |

*Note.* Column 1 lists category names in Chinese, and Column 2 their counterparts in English. Column 3 and 4 respectively list the frequency index and ratings respectively converted to z-score form. Columns 5 and 6 respectively the mean of the pair of two z-scores, followed by each category's classification as **central**, peripheral, or *marginal* (note the formatting convention). Categories were classified as **central** if both z-scores were positive, peripheral if one z-score was positive and the other negative, and *marginal* if both z-scores were negative, subject to the qualification that, if either z-score was sufficiently extreme (i.e., had an absolute value exceeding 1), a peripheral score could become **central** (if the extreme z-score was positive) or *marginal* (if the extreme z-score was positive)—the latter happening to category marked †. Column 7 lists the categories featured in Gregg et al. (2008) judged equivalent to the categories identified here. Categories in Column 7 are **emboldened if central,** underlined if peripheral, and *italicized if marginal.* Three categories featured in Gregg et al. (2008)'s research do not appear, not having being judged to have a Chinese counterpart: **humble**, *content*, and *selfless*.

Table 3 lists the categories alongside their *z*-scores on both the frequency and rating index, sorting them by the average of those *z*-scores. Next to them is the division into which they have been classified based on the revised heuristic above: **central,** peripheral, or *marginal*. (see Supplemental Material, Section C, for a visual depiction of all categories in two-dimensional grid, jointly plotted in terms of their frequency index and ratings index, on the *X*-axis and *Y*-axis, respectively.)

As it happens, the initial and revised heuristics yielded identical results in the current case, except for a single category—PLAIN—which we reclassified as marginal instead of peripheral (see Table 3). On this basis, 11 of our 34 categories were classified as **central** (LOW-KEY, POLITE, FRIENDLY, TAKES-CRITICISM, NOT CONCEITED, EASYGOING, AUTHENTIC, STEADY, CAUTIOUS, ASPIRING, and MAGNANIMOUS), 10 categories as peripheral (CONSCIENTIOUS, CALM, CAPABLE, GOOD LISTENER, GRACEFUL, UNWORLDLY, OTHERS-UP-ME-DOWN, LIKEABLE, MATURE, and SELF-DISCIPLINED), and 13 categories as *marginal* (PLAIN, REFLECTIVE, HARDWORKING, QUIET, OPTIMISTIC, CONFIDENT, OBJECTIVE, TACTICAL, INTROVERTED, DETERMINED, SOCIABLE, NOT CONFIDENT, and HYPOCRITICAL). In General Discussion, we interpret these findings and trace potential implications.

## Study 3: Confirming the Ordinal Validity of the Category Divisions

So far, we have characterized the lay concept of modesty in China using two indices of prototypicality. The first index corresponded to the frequency with which categories describing modest people emerged from the spontaneous descriptions of native Chinese participants. The second index corresponded to the similarity that native Chinese people perceived between those categories and the concept of modesty. Having algorithmically integrated these indices into a single prototypical index, we then proceeded to group those categories into three broad divisions—central, peripheral, marginal—with a view both to simplifying category exposition and facilitating cross-cultural comparison.

In Study 3, we sought to confirm the ordinal validity of these divisions. That is, we sought to confirm that, in terms of the prototypicality of the categories they subsumed, the central categories on average ranked above peripheral categories, and the peripheral categories on average ranked above marginal categories. In addition, we sought to confirm that all three types of categories ranked above a fourth set of categories undiagnostic of modesty. Accordingly, we had participants complete an impression formation task (cf. Gregg et al., 2008, Study 2, p. 985). We constructed the personalities of hypothetical individuals so that they were each made up of categories drawn exclusively from only one of each of the four divisions. Participants then rated the modesty of each hypothetical individual so that average levels of modesty could be compared across different divisions. If the pattern of prototypicality across divisions conformed to ordinal expectation, then it would afford greater confidence that the prior procedures adopted to estimate prototypicality were correct.

### Participants

Participants comprised 118 native Chinese individuals (78 women, 40 men). They ranged in age from 13 to 56 years ($M = 30.68$, $SD = 7.24$). We recruited them via an online communication platform hosted by Fudan University, and paid each CNY3 ($\approx$ USD 0.43). The sample was regionally diverse. Participants lived in 64 cities across 21 provinces; 89 of them lived in urban areas, and 29 in rural areas (1 unreported). Also, about one-third (35) were full-time

students at the institution, and the rest were non-students, with many likely to be in regular employment.

## Materials and Procedure

We showed each participant, one by one, descriptions of 12 hypothetical persons. We engineered the descriptions such that each person was described in terms of four traits, which took a specific form. *First*, they were always a subset of 46 category names that we used to characterize modesty in Study 1. Specifically, they were always some subset of the names of the final 34 categories—plus the 12 categories earlier discarded as non-diagnostic—each of which subsumed only one exemplar. *Second*, all the category names for any one hypothetical person belonged to the same broad division. For example, one hypothetical person was ascribed the traits "steady, low-key, easygoing, and friendly"—all **central**; another, the traits "mature, likeable, unworldly, and good listener"—all peripheral; another, the traits "hardworking, plain, optimistic, and confident" —all *marginal*; and another, the traits "face-saving, conservative, dialectical, and utilitarian"—all non-diagnostic. Three hypothetical persons were ascribed traits bearing the names of categories from each of the four divisions[2], yielding 12 hypothetical persons in all. (see Supplemental Material, Section D, for a complete list). Other than that, we combined traits at random.

Each time, we instructed participants to form an impression of the hypothetical person, and to answer one of several questions pertaining to them. The relevant question was: "How modest is this person?" (1 = *not at all*, 7 = *very much*).[3]

## Results and Discussion

We averaged that ratings of modesty ascribed to hypothetical persons whose personalities we constructed using the names of categories drawn from each of the four broad divisions. Then, as an omnibus test, we ran a planned linear contrast to check whether the ordinal pattern that we predicted emerged overall—that is, whether, in terms of modesty ratings, **central** > peripheral > *marginal* > non-diagnostic. It did: $F(3, 117) = 178.73$, $p < .001$, partial $\eta^2 = .604$. Next, we conducted a series of follow-up pairwise comparisons, designed to test the distinctness of each of the four adjacent divisions in case the overall linear pattern was driven only by a subset of cases. Underscoring their relative distinctness of each pair of adjacent divisions: (i) hypothetical persons ascribed traits with **central** category names ($M = 5.84$, $SD = 0.80$) were rated as more modest than those ascribed peripheral category names ($M = 5.26$, $SD = 0.89$), $t(117) = 7.73$, $p < .001$, $d = 0.69$; (ii) hypothetical persons ascribed traits with peripheral category names were rated as more modest than those ascribed *marginal* category names ($M = 4.85$, $SD = 0.76$), $t(117) = 4.93$, $p < .001$, $d = 0.49$; and (iii) hypothetical persons ascribed traits with *marginal* category names were rated as more modest than those ascribed non-diagnostic category names ($M = 3.63$, $SD = 1.07$), $t(117) = 11.37$, $p < .001$, $d = 1.30$. Finally, we tested whether hypothetical persons whose traits bore the names of categories drawn from **central**, peripheral, and *marginal* divisions were rated in themselves as more modest than not. As expected, all three elicited mean modesty ratings that were significantly above the scale midpoint—all $t$s = 25.17, 15.39, and 12.13, $p$s < .001, $d$s = 2.30, 1.42, and 1.12. In contrast, hypothetical persons who bore the names of categories drawn from the non-central division, also as expected, did not elicit mean modesty ratings that were significantly above the scale midpoint, but rather below it, $t(117) = -3.73$, $p < .001$, $d = 0.34$. Accordingly, in terms of every analysis we conducted, the broad divisions of the categories that we derived to characterize the lay concept of modesty exhibited the expected prototypicality gradient, thereby attesting to their validity.

# General Discussion

## Summary of Findings

We aimed to characterize lay conceptions of modesty in Chinese culture, and to compare and contrast them with those previously identified in Western culture. In Study 1, we asked Chinese participants to list characteristics typical of a modest person. In Study 2, we asked another sample of Chinese participants to rate the appropriateness of each characteristics in describing a modest person. By combining data from both studies, according to a new algorithm, we determined that the lay concept of modesty consists of 34 categories in three divisions (11 central, 10 peripheral, 13 marginal). In Study 3, we further validated the ordinal validity of these divisions, finding that hypothetical persons were deemed to more modest when described in terms of more central than peripheral, and more peripheral than marginal, categories. In addition, we established in Study 2 that nearly all these categories were both positively evaluated and considered normatively important in Chinese culture. Furthermore, the more central a category was rated, the more positive and normative it was regarded as being.

In terms of the categorical content, lay conceptions of modesty among Chinese and Westerners (from Gregg et al., 2008) showed an interesting mix of similarities and differences. Chinese lay conceptions were broader, containing nearly 50% more categories ($N = 34$) than Western ones ($N = 23$). Also, whereas a greater number of Western categories were shared ($n = 20$) than unique ($n = 3$), a greater number of Chinese categories were unique ($n = 19$) than shared ($n = 15$). (The different numbers of shared categories are explained by the fact that multiple Western categories were deemed equivalent to several single Chinese categories, but not vice versa.).

Drilling down, only two central categories were shared—FRIENDLY (**solicitous**) and NOT CONCEITED (**not boastful**; this was also deemed equivalent to the peripheral <u>not arrogant</u>). In contrast, LOW-KEY (<u>attention-avoiding</u>, *unobtrusive, unassuming*), POLITE (*polite*), EASYGOING (*easygoing*), and AUTHENTIC (<u>honest</u>, *unpretentious*) were central for Chinese participants, but either peripheral or marginal for Western participants. Conversely, **shy** (INTROVERTED) was central for Western participants but marginal for Chinese participants. Finally, TAKES-CRITICISM, STEADY, CAUTIOUS, and ASPIRING were uniquely central for Chinese participants. To aid comparison, we present in Figure 1 a grid that visually organizes the categories comprising lay conceptions of modesty—either shared by, or unique to, the present research and Gregg et al. (2008)—by jointly sorting them into their category divisions.

## Interpretations

Below, we offer interpretations—some necessarily speculative—about specific categories that emerged as part of the Chinese prototype of modesty, and general patterns of findings that characterized it.

*Specific categories.* The category NOT CONCEITED emerged as a central to the Chinese prototype. This was deemed equivalent to the central category **not boastful** in the Western prototype, as well as to the thematically related peripheral category <u>not arrogant</u>. Modest people are seen in China and the West alike as having no more than an intermediately positive self-view (Sedikides et al., 2007), which prevents an excess of overt self-praise (Van Damme et al., 2006). On the subject of interpersonal style, the category POLITE also emerged as central in the Chinese prototype, but only as marginal in the Western prototype. This suggests a stronger sense among Chinese laypeople that to be modest is to adapt one's speech and manner harmoniously to the context, in line with longstanding cultural and historical norms (Huang, 2016).
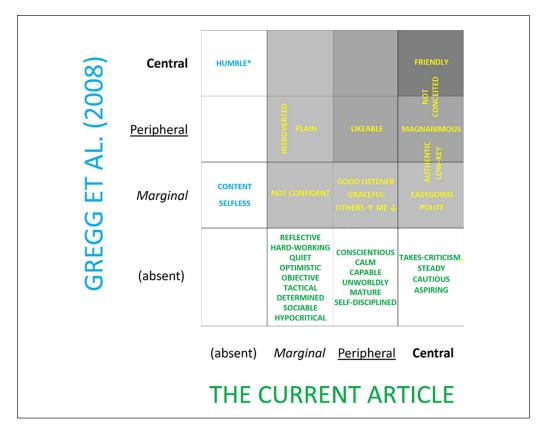
**Figure 1.** Categories comprising lay conceptions of modesty—either shared by, or unique to, Shi et al. (2020) and Gregg et al. (2008)—jointly sorted into category divisions (i.e., Central, Peripheral, Marginal). *Note.* Shared categories are depicted in yellow font against a grey background. Unique categories are depicted in green font (the current article) or blue font (Gregg et al., 2008) against a white background. For simplicity of exposition, only versions of the category names in the current article are used. (See the rightmost column of Table 3 for the Gregg et al. (2008) versions.) Some categories from the current article correspond to more than one category in Gregg et al. (2008), which sometimes also belonged to more than one division. In such cases, category names are listed vertically, straddling the mulitple divisions they belong to. The category HUMBLE is asterisked given some linguistic complications dealt with in the Study 1.

The category FRIENDLY (**solicitous**) also emerged as jointly central despite not being part of the standard dictionary definition of modesty. In Western and Chinese cultures alike, modest people are evidently perceived as paragons of prosociality too. Otherwise put, modesty seems to be a hallmark of *warmth/communion*—one of two fundamental dimensions of social cognition (the other being *competence/agency*; Abele & Wojciszke, 2007; Fiske et al., 2007). This finding is also in keeping with Modesty being one of the six facets of the fundamental personality dimension Agreeableness (Costa et al., 1991). However, it is also ostensibly odds with the HEXACO model, which instead considers Modesty to be one of the four facets of the Honesty-Humility (Ashton et al., 2004). Debate persists over the distinctiveness of the Honesty-Humility dimension (Howard & Van Zandt, 2020), or even over its existence in Chinese culture (Zhou et al., 2009).

Also, noteworthy was how the category LOW-KEY emerged as central to the Chinese prototype, despite its equivalents in the Western prototype (attention-avoiding, *unobtrusive, unassuming*) emerging as only peripheral or marginal. Mainly for Chinese participants, it would appear, being modest intuitively equates to not sticking out, not making oneself salient. Here, the ancient Chinese proverb may aptly apply: "The feathered friend in front is soonest to be

shot/枪打出头鸟." Being LOW-KEY is perhaps better understood as harmoniously blending into the background rather than merely refraining from thrusting oneself into the foreground (which would entail being **not boastful** or *not arrogant*).

Conversely, the category INTROVERTED (**shy** or *embarrassed by praise*), although the second-most central category in Western modesty prototype (Gregg et al., 2008), was only marginal in the Chinese prototype. One explanation is that, because modesty is a more valued characteristic in Eastern than in Western cultures (Chiu et al., 2011; Sedikides et al., 2015a), it is therefore liable to be more often observed in the former than in the latter. Accordingly, when it makes an appearance among Western culture, its relative oddity may prompt special dispositional explanations (Malle, 2006). That is, whereas being modest in China may be seen as typical of everyone, being modest in the US or UK may be seen as a rarer characteristic of the type of people who are chronically inclined to be retiring and reticent.

What of the 15 categories that were unique to the Chinese prototype of modesty? Inspection reveals their content to be quite diverse, and not readily predicted based on any simple culture-specific criterion. However, we can tentatively identify one theme running through several of them: *conscientiousness* (Roberts et al., 2009). In particular, it runs through at least half the central categories (STEADY, ASPIRING; and maybe CAUTIOUS too), half the peripheral categories (CONSCIENTIOUS, CAPABLE, SELF-DISCIPLINED), and two of the marginal categories (HARDWORKING, DETERMINED). Chinese people tend to see those who are modest as also being industrious, diligent, ambitious, and reliable. An even more general way of interpreting these categories would be in terms of agency/competence dimension of the "Big Two" (Abele & Wojciszke, 2007; Fiske et al., 2007). In contrast, little trace of conscientiousness can be found in the Western prototype of modesty, which is almost completely communal in character. We do not have a ready explanation for this difference. It is not clear whether any greater general emphasis on conscientiousness among Chinese people is responsible. One large cross-cultural studies found that native East Asians and Hong Kong Chinese self-report the lowest levels of conscientiousness of all cultural groups (Schmitt et al., 2007). But given other evidence of culture-based conscientiousness (e.g., the Chinese have the 3rd highest savings rate in the world; Probasco, 2019), such self-reports may ironically reflect the influence of a modesty-focused cultural mindset (Chen et al., 2014).

*General patterns.* We found that Chinese lay conceptions of modesty had "more to them" than Western lay conceptions: the former featured both more categories and more unique categories. One explanation is that, because modesty is more important in Chinese culture, Chinese people are more likely, when prompted to report their lay conceptions, to have more information about modesty available and accessible in their minds. This explanation is supported by the attitude change literature. *First*, the more important an attitude it, the more attitude-relevant knowledge people possess (Krosnick et al., 1993), and the more readily they retrieve that knowledge from memory (Krosnick, 1989). *Second*, the more important an attitude is, the more attitude-relevant knowledge about it accumulates via a process of selectively elaborating attitude-relevant information (Holbrook et al., 2005). So, by extension, the greater richness of the lay conception of modesty in China may be the cognitive consequence of its greater general relevance.

As regards the positivity and normativity of the categories comprising the Chinese lay concept of modesty, the Study 2 results were clear-cut: nearly all the categories in question received high ratings on both cases. The handful of mostly marginal categories receiving negative ratings pertains to introversion and insecurity (as in Gregg et al., 2008) or to insincerity. This vote of confidence for modesty in China is especially interesting in light of recent cultural change. Evidence indicates that, thanks to globalism, traditional collectivism has been ceding ground to modern individualism, or at least that the two value systems now coexist within the minds of contemporary Chinese, with each capable of contextually prevailing (Cai et al., 2018, 2019; Xu &

Hamamura, 2014; Yang, 1996; Yu et al., 2015; Zhang et al., 2017). For example, from 1970 to 2008, Chinese words connoting individualism greatly gained in frequency, whereas words connoting collectivism either declined in frequency or gaining in frequency more slowly (Zeng & Greenfield, 2015). Also, the balance of Chinese people's moral priorities, in favor of sentimental relationships over abstract justice, is predicted both by dispositional preferences for traditional versus modern Chinese cultures and by situational priming of traditional versus modern Chinese icons (Hu et al., 2018). Hence, one might have expected our Chinese participants to show some tepidness or ambivalence about modesty, especially given their relative youth (mid-20s and early 30s). However, next to none was observed. Our findings strongly suggest that modesty is still a "thing" in China.

## Implications

When laypeople in the West use the term "modesty" and laypeople in Chinese use the term 谦虚 they are not referring to exactly the same thing. Thus, our study refutes one potential instance of the *jingle fallacy* (Kelley, 1927; Larsen & Bong, 2016). It would be wrong to assume, then, that laypeople in China and the West understand the same thing by 谦虚 and "modesty" when they encounter those terms in stimulus materials, scientific communications, or even everyday conversations. Moreover, even researchers, growing up within their own cultural milieu, are unlikely to construe modesty only in terms of their expert formulations.

The testing of such assumptions of equivalence is, of course, a common theme in cross-cultural research (van de Vijver & Tanzer, 2004). Whereas much attention has focused on assessing measurement equivalence, with the aid of sophisticated statistical techniques (Kim et al., 2003; Milfont & Fischer, 2015), our research focuses on construct equivalence. Ultimately, we did not find either satisfactory equivalence or intolerable inequivalence. Instead, we found a type of semi-equivalence—with interesting implications. Given that lay conceptions of modesty in China and the West were partly shared and partly unique, our findings support both an etic and an emic perspective. Indeed, both perspectives are viable for a particular set of subset of categories in lay conceptions (Helfrich, 1999).

The semi-equivalence of "modesty" and 谦虚 in the minds of laypeople need not automatically imply the existence, inevitability, or desirability of any parallel semi-equivalence in the mind of Western and Chinese researchers. Expert formulations are not at the mercy of lay conceptions. That said, given that expert formulations retain their roots in lay conceptions, our empirical findings many still provide potential pointers as regards how Western and Chinese researchers might construct or adjust their expert formulations. In particular, if a researcher were to study modesty from an etic perspective, they might err on the side of incorporating into their formulation central categories shared across China and the West: NOT CONCEITED (**not boastful**) and FRIENDLY (**solicitous**). In contrast, if a researcher were to study modesty in China from an emic perspective, they might err on the side of incorporating into their formulation the central categories unique to China: TAKES-CRITICISM, STEADY, CAUTIOUS, and ASPIRING. Alas, a Western researcher seeking to adopt a similarly emic approach would have some difficulty, because the Chinese prototype largely subsumes the Western prototype! However, they could still err on the side of incorporating a category like **shy** (INTROVERTED), central to the Western prototype but marginal in the Chinese one.

In the light of our findings, cross-cultural modesty researchers, when arriving at their formulation of the modesty construct, are at least no longer "flying blind." They have some information concerning which categories in the lay conception—central, peripheral, or marginal—they are potentially including in, or excluding from, their formulation. For example, Sedikides et al. (2007) conceptualized modesty as the possession of a moderately positive self-view, rather than an insufficiently positive or excessively positive self-view. This conceptualization is rigorous, and offers a

precise and concise account of modesty. It lends itself readily to empirical measurement (e.g., with a standard self-esteem scale), and the criteria for what counts as a modest self-view could be clearly specified (e.g., within one standard deviation of either side of the sample mean). So far, so scientific. However, by considering the definition alongside the findings of our current research, one can now enquire as to whether it offers adequate coverage. For example, given that FRIENDLY (**solicitous**) emerged as a jointly central category across Chinese and Western cultures, is it sufficient to formulate modesty in terms of self-evaluation alone? As a case in point, should the conceptualization perhaps be expanded as follows: (a) the absence of both self-love and self-dislike, plus (b) the presence of ample agreeableness? Note that there are no automatic answers to such questions: thin and thick constructs have different and debatable utilities, as the perennial debate over the hierarchical structure of personality indicates (van der Linden et al., 2016). However, the virtue of unpacking the lay conceptions of psychological constructs like modesty is that enables these questions to be asked. In particular: How does the content of the items purporting to assess modesty as part of the Agreeableness factor of the Five Factor Model (Costa et al., 1991), and the Honesty-Humility factor of the six-factor HEXACO model (Ashton & Lee, 2007), correspond to the lay conceptions of modesty in China and the West?

## Limitations

As with all research, it behooves us—in all modesty—to mention some of its limitations. First, our samples sizes of around 100 per study, though respectable, and comparable to those in previous research (Gregg et al., 2008), could have been larger. Nonetheless, the fact that our frequency and ratings indices of category prototypicality, derived from very different methodologies, exhibited a healthy correlation, suggests that substantial levels of reliability were nonetheless achieved. Second, we did not deliberately stratify our sample to capture Chinese people representatively. Nonetheless, participants in our study hailed from all corners of China and consisted of working people as well as university students. Third, the methodology followed in the current research was not identical to that followed by Gregg et al., (2008), which means any differences in results potentially have methodological explanations too. Nonetheless, intrinsic differences in the nature of the Chinese and English language mean that some such differences were inevitable. We welcome future research that aims to replicate our findings with larger and more diverse samples, as well as additional measures of prototypicality (e.g., reaction times).

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## Supplemental Material

Supplemental material for this article is available online.

## Notes

1. We chose the double logogram 谦虚, because we judged it to be the optimal single homologue for "modesty." It also met several desirable criteria. First, *primacy*: leading online dictionaries, such as Google Translate, list 谦虚 as the primary Chinese translation when the word "modest" is entered. Second, *back-translatability*: the same dictionaries give "modest" as the primary translation of 谦虚 when it is entered. Third, we established empirically (see Supplemental Material, Section A, for the relevant figures) that 谦虚 is in more general linguistic use in China than two of the primary alternative translations for modesty, 谦逊 and 谦卑. Over recent decades (a) laypeople have entered 谦虚 about twice as often into the leading Chinese search engine Baidu (see http://index.baidu.com/), and (b) academics have included the term 谦虚 at least twice as often in scholarly articles, according to the China National Knowledge Infrastructure database.
2. The number of categories in each of the four divisions—**central (11)**, peripheral (10), *marginal (13)*, and non-diagnostic (12)—was roughly similar. To ascertain that exactly 12 traits were ascribed to the three hypothetical people each division, we added a near-synonymous term for a central category (**not conceited** = **not boastful**), added near-synonymous terms for two peripheral categories (earnest = conscientious; knowledgeable = capable), and omitted the least prototypical marginal category (*hypocritical*).
3. The other questions enquired into how warm, competent, authentic, tactical, and normal the person described was. We did not analyze their data, as these were filler questions.

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