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Michael Lynn

Mark M. Starbuck, *Showa Women's University*



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Tipping Customs:
The Effects of National Differences in Attitudes toward Tipping and
Sensitivities to Duty and Social Pressure

Michael Lynn*

Cornell University

Mark M. Starbuck

The British School in Tokyo, Showa Women's University

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*Michael Lynn is the Burton M. Sack Professor of Food and Beverage Management at the School of Hotel Administration, Cornell University, Ithaca, NY, 14853, WML3@cornell.edu, (607) 255-8271. Mark Starbuck is Deputy Head at the British School in Tokyo. He completed a University of Oxford DPhil thesis 'A Comparative Study of Tipping Practices and Attitudes' (2009), funded by a research studentship from the Economic and Social Research Council(R42200034463).

Abstract

Consumers around the world often give voluntary sums of money (called “tips”) to the service workers who have served them, but the set of tipped professions and the amounts tipped to any one profession differ from country to country. One explanation for these national differences in tipping customs is that they reflect national differences in attitude toward tipping, sensitivity to duty/obligation to tip, and sensitivity to social pressure to tip. Furthermore, these variables have been hypothesized to mediate the previously observed effects on tipping customs of national extraversion, psychoticism and neuroticism respectively. Analyses of secondary data found support for these explanations of national differences in tipping customs, but only partial support for their roles as mediators of national personality effects on tipping customs. The theoretical and practical implications of the findings are discussed along with study limitations and directions for future research.

Keywords: tipping, social norms, national differences

Tipping Customs:

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1. Introduction

Consumers around the world often give gifts of money (called “tips”) to the service workers who have served them. Among those workers commonly tipped are bartenders, busboys, chamber maids, concierges, croupiers, doormen, exotic dancers, food deliverymen, golf caddies, parking valets, porters, restaurant and street musicians, sommeliers, taxicab drivers, tour guides, and waiters (see Star, 1988). While individual tips are often of modest size, the cumulative total of all tips is substantial. Estimates place the amount tipped to waiters and waitresses in the United States alone at over \$40 billion per year (Azar & Tobol, 2008), so worldwide tips given to all service providers represent a sizable slice of world economic activity.

Tipping is guided by social norms that specify who should be tipped and how much they should be tipped. Both of these dimensions of tipping norms vary across nations, so that the set of tipped professions and the amounts tipped to any one profession differ from country to country (see Star, 1988). This cross-national variability in tipping norms raises questions about its origins and the current paper attempts to answer those questions. Specifically, it makes two related contributions to our understanding of national differences in tipping. First and most importantly, it tests predictions derived from a proto-theory about the psychological origins of national differences in tipping. Second, it tests hypothesized explanations for previously observed relationships of

tipping customs to national differences in extraversion, neuroticism and psychoticism. Each of these contributions is elaborated upon in the literature review below.

2. Literature Review and Hypotheses

2.1. A Proto-Theory of National Differences in Tipping

One recent explanation for national differences in tipping postulates that three psychological reasons for tipping underlie the development and evolution of tipping norms – attitude toward tipping, social compliance, and sense of duty (Lynn, 2008). First, some people tip out of an inherent liking for the idea - because they want to help servers, reward good service, and/or buy extra attention and esteem from the server. The behavior of this group puts social pressure on others to follow their example and this social pressure builds as more and more people begin to tip. Eventually, the social expectations about tipping become so strong that people begin to internalize them as injunctive norms. According to this proto-theory, the motives for tipping expand over time as social pressures and, eventually, a sense of duty are added to pre-normative motives for, and attitudes toward, tipping. This evolutionary process has likely played out for service occupations that have been around for some time, so that all of these motives are likely to underlie tipping for traditional services in modern societies.

The different motives for tipping all lead to a greater likelihood of tipping, so they should all facilitate the spread of tipping across occupations. However, the different motives for tipping are likely to have different effects on the size of tips people leave, so they may have different effects on the evolution of tip sizes over time. People who like tipping should be willing to tip larger amounts, which puts pressure on others to match their generosity, so liking for tipping should facilitate the increase in tip sizes over time

as well as the spread of tipping across occupations. On the other hand, people who tip in response to social pressures should tip only as much as expected, so social pressures to tip should not by itself produce growth in tip sizes over time.¹ People who tip out of a sense of duty or social obligation can do so to avoid negative feelings of guilt or to experience positive feelings of pride. Avoidance of guilt requires only leaving expected or normative tip amounts, but feelings of pride may increase with the amount tipped. Thus, a sense of duty or obligation to tip should lead to increases in expected or customary tip amounts over time to the extent that tipping out of a sense of duty is motivated by anticipated pride.

Lynn (2008) speculated that national differences in the strength of these various motives for tipping underlie national differences in tipping customs. His ideas are visually depicted in the right-hand panel of Figure 1 and formalized in the following hypotheses:

H1: The number of tipped occupations (aka, the prevalence of tipping) will increase with national attitude toward tipping.

H2: The number of tipped occupations (aka, the prevalence of tipping) will increase with national susceptibility to social pressure.

H3: The number of tipped occupations (aka, the prevalence of tipping) will increase with national susceptibility to feelings of duty.

H4: The customary size of restaurant tips will increase with national attitude toward tipping.

¹ Lynn (2009) provides evidence at the individual level of analysis consistent with these expectations. Specifically, he found that individual differences in endorsement of positive motives for tipping, which he labeled “intrinsic motives,” had a positive effect on restaurant tip percentages while individual differences in endorsement of avoidant motives for tipping, which he labeled “self-presentational motives,” had a negative effect on restaurant tip percentages.

H5: The customary size of restaurant tips will not be positively related to national susceptibility to social pressure.

H6: The customary size of restaurant tips will increase with national susceptibility to feelings of duty (as long as pride motivates dutiful behavior more than does guilt).

2.2. National Personality Effects on Tipping

Researchers have found that tipping customs are related to national differences in personality (Lynn, 1994, 2000, 2008). Specifically, tipping is more prevalent, and customary tip amounts are larger, in countries whose populations have higher extraversion levels and lower psychoticism levels. Higher levels of national neuroticism are also associated with a greater prevalence of tipping, but not with larger customary tip amounts. Lynn (2008) suggested that these effects could be explained by national differences in the aforementioned motivations for tipping. Extraverts are outgoing, sociable and energetic people who like tipping more than introverts, so Lynn argued that the effects of national extraversion on tipping customs might be mediated by national attitude toward tipping. Psychotics are anti-social, rule-breakers who report rebelling against tipping norms and feeling less guilt over not tipping than do more tender-hearted people, so Lynn argued that the effects of national psychoticism on tipping customs might be mediated by national sensitivity to sense of duty or social obligation. Neurotics are people prone to negative feelings like anxiety, fear and guilt who worry about the scrutiny of others more than do emotionally stable people, so Lynn argued that national neuroticism effects on the prevalence of tipping might be mediated by national sensitivity

to social pressure. Indeed, the proto-theory of national differences in tipping previously detailed was developed as a post-hoc explanation for these national personality effects.

Lynn's (2008) explanations for national personality effects on tipping customs are visually depicted in Figure 1 and formalized in the following hypotheses:

H7: The positive effect of national extraversion on the number of tipped occupations is mediated by national attitude toward tipping.

H8: The positive effect of national extraversion on the customary size of restaurant tips is mediated by national attitude toward tipping.

H9: The negative effect of national psychoticism on the number of tipped occupations is mediated by national sensitivity to sense of duty.

H10: The negative effect of national psychoticism on the customary size of restaurant tips is mediated by national sensitivity to sense of duty.

H11: The positive effect of national neuroticism on the number of tipped occupations is mediated by national sensitivity to social pressure.

Hypotheses 1 thru 11 are tested for the first time in the study reported below. Secondary sources are used to obtain national level measures of tipping prevalence, restaurant tip rates, attitude toward tipping, sensitivity to duty/obligation, sensitivity to social pressure, extraversion, neuroticism, and psychoticism. Then correlation and maximum likelihood analyses are used to test the predicted relationships among these variables.

3. Method

3.1. Independent Variables

Data on national extraversion, neuroticism, and psychoticism were obtained from Steel and Ones (2002). They compiled the results of studies conducted between 1975 and 1998 that reported mean Eysenck Personality Questionnaire (EPQ) scores among normal adult populations. Data was available for 39 nations and six continents. Sample size per country ranged from 430 to 1,912 with an average of 1,059. Male and female norms were averaged to produce a national score on each personality dimension. Supporting the validity of cross-national analyses using these national personality scores, researchers have demonstrated that the EPQ has a similar factor structure across 34 nations (Barrett, et al. 1998) and that national EPQ scores are related in meaningful ways to other national variables such as subjective well being and tipping (Lynn, 2008; Steel & Ones, 2002).

Data on national attitude toward tipping was obtained from Starbuck (2009). He surveyed 1,270 English-speaking adults from 30 countries, with the number of participants per country ranging from 35 to 50. These samples were not representative but they were used as expert judges of their countries' attitudes and behaviors, not as representative members of their countries' populations. In other words, they were asked questions not about their own attitudes and behavior but about those of most people in their countries. The attitude question asked was: "What do people in your country generally feel about giving tips?" with response options of "It is to be avoided" = 0, "It is undesirable" = 1, "It is acceptable" = 2, and "It is desirable" = 3. The mean score within each country was used as the measure of national attitude toward tipping.

Data on national sensitivity to duty/obligation was obtained from the World Values Survey. Inglehart, Basanez and Moreno (1998) reported the percentages of people in each of 32 countries who said that “a sense of duty, moral obligation” was a “very important” reason for their own volunteer work. This data was used as a measure of sensitivity to duty/obligation under the assumption that nations with larger proportions of the populations acting out of a sense of duty are more sensitive to duty/obligation than are nations with smaller proportions of the population acting out of a sense of duty.

Data on national sensitivity to social pressure was obtained from Steel and Ones (2002). They provided national EPQ lie scores as well as the national extraversion, neuroticism and psychoticism scores previously described. Impression management concerns are a key motivator of lying and social conformity has been shown to be a major component of EPQ lie scores at the individual level of analysis (Birenbaum & Montag, 1989; Francis, 1991). Furthermore, national EPQ lie scores correlated at .47, $n = 32$, $p < .008$ with Schwartz’s (2008) national value orientation of embeddedness, at -.51, $n = 32$, $p < .004$ with Schwartz’s national value orientation of affective autonomy, and at -.36, $n = 32$, $p < .05$ with Schwartz’s national value orientation of intellectual autonomy in unpublished analyses performed by the lead author. Thus, national lie scores are a reasonable measure of sensitivity to social pressure.

3.2. Dependent Variables

Data on the national prevalence of tipping was obtained from Lynn (2000), Starbuck (2009), and an unpublished survey of concierges at Intercontinental Hotels around the world. Using data from Nancy Star’s (1988) *International Guide to Tipping*, Lynn (2008) counted the number of service professions it was customary to tip in 32

nations. Starbuck (2009) asked participants in the previously described survey how often people in their country tipped each of 30 different service occupations. The question wording was: "As far as you know, do you think [nationality, e.g., Australians] tip the following occupations?" with response options of "Never" = 0, "Sometimes" = .5, "Normally yes" = 1, and "Don't Know" = missing value. He averaged the responses across respondents within a country to get national tipping scores for each occupation and reported the median of these 30 national occupation tipping scores for each of 30 nations. The lead author of the current paper surveyed 63 English speaking concierges at Intercontinental Hotels in 41 countries asking them to indicate how often people in their country tipped the members of 51 different service occupations using the following scale – "always/usually" = 2, "sometimes" = 1, "rarely/never" = 0, and "not applicable- this service does not exist in my country" = missing value. Although most countries had only one concierge responding to the survey, that one respondent should be very familiar with his/her country's tipping norms because he/she works in a heavily tipped industry and his/her job includes advising international visitors to the hotel about the local scene. The means of all the ratings across occupations were calculated for each concierge and averaged across concierges within each country to provide a third measure of the national prevalence of tipping.²

The three measures of national prevalence of tipping had different sources, different lists of occupations, different national samples, and different scales, but they correlated fairly highly with one another (see Table 1), so they were combined to provide an index that covered a larger sample of nations than did any of the separate measures.

² One completed survey had little response variance across occupations and differed substantially from a second survey from the same city, so it was dropped.

Given the different scales used by each source, it was necessary to standardize the scores to a common mean and standard deviation before combining them. However, given the different samples of nations used by each source it was unlikely that the samples had a common mean and standard deviation, so simply standardizing and averaging the separate scores was inappropriate. This problem was addressed by regressing each score on each of the others and, thereby, generating one or two predicted values for each score depending on how the three samples overlapped. The predicted values for each score were averaged and that average was used to fill in missing values for the actual, measured score before standardizing. This meant that all three measures had values (either measured or predicted) for the same sample of nations so that standardizing to a common mean and standard deviation was appropriate. The standardized values for only the measured scores (the standardized predicted scores were dropped at this stage) were then averaged across the three measures/sources to obtain an index of national prevalence of tipping. Averaging those measured scores that were available means that missing values on one or more of the three components of this index were effectively replaced with the mean of those components that were available as advocated by Roth, Switzer and Switzer (1999), who found that this missing data technique performed well for unidimensional, multi-item scales.

Data on the national restaurant tip rates was obtained from four sources – the online version of the *World Travel Guide* (Tucker, 2001), the print version of Fodor's *How to Tip* (Cure, Klurman & Lombardi, 2002), the print version of Presents and Law's *World Tipping Guide* (Presnts & Law, 2005), and the online version of Magellan's *Worldwide Tipping Guide* (Magellans.com, 2012). The customary size of restaurant tips

when no service charges are added to the bill was recorded as a percentage of the bill. For countries where it is customary to leave the change, round up the bill, or leave a small discretionary amount specified in the local currency, the tipping rate was coded as 3 percent. When customary tip ranges were provided, the midpoint of the range was recorded. When tipping customs were described without mentioning service charges, it was assumed that those rates applied when no service charges are added. To keep this measure independent of the national prevalence of tipping, only non-zero values were used in our aggregation and analysis. Thus, we recorded the customary size of restaurant tips when tips are given. The values obtained from our four sources were positively correlated with one another (see Table 2), so they were averaged to form an index of national restaurant tip rates. Similar to the prevalence of tipping index, missing values on one or more of the four components of this restaurant tip size index were effectively replaced with the mean of those components that were available as advocated by Roth, Switzer and Switzer (1999).

Insert Tables 1 thru 3 about here

4. Results and Discussion

4.1. Missing Values

A summary of the data in this study is proved in Table 3 along with the zero-order correlations among the variables. As is evident from that table, our different measures were available for different, though overlapping, samples of nations, so missing values posed a problem in multivariate analyses. Although the most common way to deal with

missing values is to analyze only those cases with complete data (listwise deletion), this approach is inefficient (has low power) and can be biased if the missing values are not missing completely at random (Enders, 2001; Schafer & Graham, 2002). In this case, there are only twelve observations with no missing values and the data are not missing completely at random (Little's MCAR test $\chi^2(68) = 94.16, p < .01$), so listwise deletion is not an appropriate way to handle missing values in this data set. Maximum likelihood and multiple imputation are more efficient and potentially less biased ways to deal with missing data, so we used those widely advocated techniques in this paper (Allison, 2012; Enders, 2001; Schafer & Graham, 2002).

In this paper, our primary analyses involved full information maximum likelihood (FIML) using PROC CALIS in SAS as described by Allison (2012). These maximum likelihood analyses used 56 observations with non-missing values on at least one dependent variable and one independent variable. In addition, although different multivariate models involved different variables, those variables not directly included in a particular model were used as auxiliary variables in the maximum likelihood estimation of the covariance matrix. However, as robustness checks, we also analyzed the 56 observation data set using multiple imputation (MI) in SPSS with 50 imputations. These results are summarized in Tables 4 thru 6, but will be discussed in the text only when they differ from the FIML analyses. Finally, we include analyses using listwise deletion (LD) in our tables for interested readers, but do not discuss them in the text because they are the least trustworthy of all the analyses.

4.2 Tests of Hypotheses 1 to 3

Lynn's (2008) proto-theory of national differences in tipping suggests that the national prevalence of tipping will increase with national attitude toward tipping (H1), national sensitivity to social pressure (H2), and national sensitivity to duty (H3). The zero-order correlations in Table 3 support all of these expectations/hypotheses. FIML analysis using all the predictor variables in this study also supported hypotheses 1 through 3 with significant positive effects of attitude toward tipping ($B = 1.68$, $z = 9.79$, one-tailed $p < .001$), sensitivity to duty ($B = .02$, $z = 3.20$, one-tailed $p < .002$), and sensitivity to social pressure ($B = .04$, $z = 1.70$, one-tailed $p < .05$).

4.2. Tests of Hypotheses 4 to 6

Lynn's (2008) proto-theory of national differences in tipping suggests that the customary size of restaurant tips will increase with national attitude toward tipping (H4), and national sensitivity to duty (H6), but not with national sensitivity to social pressure (H5). The zero-order correlations in Table 3 support all of these expectations/hypotheses. FIML analysis using all the predictors in this study also supported these hypotheses with significant, positive effects of national attitude toward tipping ($B = 2.31$, $z = 1.95$, one-tailed $p < .03$) and national sensitivity to duty ($B = .17$, $z = 3.98$, one-tailed $p < .001$) and a significant, negative effect of national sensitivity to social pressure ($B = -.63$, $z = -4.32$, $p < .001$). However, the effects of national attitude toward tipping were not reliably replicated in the MI analysis (see Model 2b, Table 4), so only hypotheses 5 and 6 receive unambiguous support.

The unexpected, significant negative effect of sensitivity to social pressure not only provides the strongest possible confirmation of hypothesis 5 (about the absence of a

positive effect) but is interesting in its own right. Azar (2004b) argued that tipping norms would erode over time if social pressure was the only motivation underlying compliance, because then people would leave only average or slightly below average tips, which would lower the average and result in a downward spiral in tip amounts. The results of this study suggest that this process may operate even when there are other motives for tipping and, if strong enough, can override any stabilizing, or even upward, pressures on customary tip amounts those other motives may generate.

Insert Tables 4 thru 6 about here

4.3. Tests of Hypotheses 7 to 11

Lynn (2008) suggested that (i) the effects of national extraversion on the prevalence of tipping and customary size of tips might be mediated by national attitude toward tipping (H7 and H8), (ii) the negative effects of national psychoticism on the prevalence of tipping and customary size of tips might be mediated by national sensitivity to sense of duty (H9 and H10), and (iii) the positive effects of national neuroticism on the prevalence of tipping might be mediated by national sensitivity to social pressure (H11). We used Sobel tests to assess the reliability of these hypothesized indirect effects.³ Sobel tests require coefficients, and their standard errors, for the path between the independent variable and the mediator (“Path A”) and the path between the mediator and the dependent variable while controlling for the independent variable (“Path B”). Path B coefficients and their standard errors were obtained from the analyses reported previously

³ The requirement for establishing mediation is simply that the indirect effect of an independent variable thru the mediator be statistically reliable (Zhao, Lynch & Chen, 2010).

(see Models 1 and 2, Table 4). Path A coefficients and their standard errors were obtained from FIML analyses predicting national attitude toward tipping, national sensitivity to duty and national sensitivity to social pressure from national extraversion, psychoticism and neuroticism (see Models 3, 4 and 5, Table 5). Our tests of hypotheses 7 through 11 based on these Path A and Path B coefficients and their standard errors indicated that only the indirect effect of national extraversion on the prevalence of tipping through national attitude toward tipping was reliable and in the expected direction ($z = 2.32$, one-tailed $p < .02$; see Table 6). The indirect effect of national psychoticism on the customary size of restaurant tips through national sensitivity to duty was also significant ($z = 1.99$, $p < .05$), but it was in the opposite direction expected and was not reliably replicated in the MI analyses (see Table 6). Thus, only hypothesis 7 was supported by the data.

5. Discussion

The results of this study indicate that the prevalence of tipping and customary restaurant tip sizes increase with national attitude toward tipping and national sensitivity to duty. In addition, the prevalence of tipping increases, and the customary size of restaurant tips decreases, with national sensitivity to social pressure. Finally, the results indicate that national attitude toward tipping mediates the positive national extraversion effect on the prevalence of tipping, but fail to support other hypothesized mediation effects. The theoretical and practical implications of these findings as well as the study limitations are discussed in the sections that follow. In addition, several directions for future research are identified.

5.1. Theoretical Implications

The results of this study make several contributions to our understanding of national differences in tipping. First, and most importantly, they suggest that tipping customs vary across nations because national populations differ in psychological traits that support the practice. While this general conclusion is not new, most previous studies linking tipping customs with national psychological traits used broad, multi-faceted constructs, such as Hofstede's (2001) "Masculinity Index" or Eysenck and Eysenck's (1985) trait of "Psychoticism," whose relationships with tipping customs were not clearly attributable to any one motive for tipping or other explanatory process (see Lynn, 1994, 2000, 2008; Lynn & Lynn, 2004; Lynn, et. al. 1993). The current study links tipping customs to new national traits whose effects are more readily explained and were predicted by Lynn (2008). Specifically, it is understandable that national attitude toward tipping and national sensitivities to duty and social pressure are associated with a greater prevalence of tipping because they should all increase the motivation and/or willingness of national populations to tip various service providers. Furthermore, it is understandable that national attitude toward tipping and national sensitivity to duty, but not national sensitivity to social pressure, are associated with larger customary tip amounts because the former, but not the latter, should increase the size of tips national populations are motivated and/or willing to leave. Thus, the current study supports plausible psychological explanations of national differences in tipping that had not previously been tested.

Second, the results of this study help to explain national extraversion effects on tipping customs. Lynn (2008) argued that national attitude toward tipping may mediate

national extraversion effects on tipping customs, but did not test that idea. Our findings partially support his explanation for national extraversion effects on the prevalence of tipping, but not his explanation for national extraversion effects on the customary size of restaurant tips. The failure to find the expected indirect effect of national extraversion on the customary size of restaurant tips seems likely to be a Type II error, so future researchers are encouraged to test this effect again when more data becomes available.

Finally, the results of this study challenge explanations offered for two previously observed national personality effects on tipping customs. National sensitivity to duty and sensitivity to social pressure have been advanced as possible mediators of national psychoticism and neuroticism effects on the prevalence of tipping respectively (Lynn, 2008), but our analyses failed to support these expectations. In fact, we found that neither national personality trait was related to its proposed mediator as expected. It is possible that these null results are Type 2 errors attributable to measurement and/or sampling error, so additional research using different measures of the underlying constructs and larger samples of nations should be attempted. However, the fact that both proposed mediators were related to tipping customs as expected suggests that the measures have some construct validity. Furthermore, the significant but unexpected direction of the relationship between national psychoticism and national sense of duty indicates that the failure to support the hypothesized mediation of national psychoticism effects cannot be attributed to insufficient statistical power. Thus, future researchers need to look beyond these potential mediators for other potential explanations of national psychoticism and neuroticism effects on tipping customs. For example, neuroticism is strongly related to uncertainty avoidance at both the individual and national levels of analysis (Hirsh &

Inzlicht, 2008; Hofstede, 2001) and scholars have theorized that tipping is a way that consumers can shift the risk associated with uncertain food and service quality to the waiter (Holland, 2009), so one possibility is that national neuroticism increases the prevalence of tipping through its effects on uncertainty avoidance.

5.2. Practical Implications

The results of this study and the underlying causal processes they suggest also have practical implications for service businesses with large numbers of foreign customers, managers seeking to impose counter-normative service charge policies on domestic customers, and people seeking to encourage tipping in places, among populations, and for services where and for whom it is not currently normative. The implications of our findings for each of these audiences are briefly discussed below.

Inappropriate tipping by foreign customers. When people travel to another country they often bring their tipping habits with them, so that travelers in a country whose tipping norms differ from their home country's norms often tip inappropriately (Dewald, 2001). Inappropriate tipping by foreigners can be problematic because service staff will learn which foreign nationalities tip best and worst and will give guests from those countries more and less attention respectively. At the extreme, servers at establishments that cater to large numbers of foreign guests who tip lavishly by local standards may all but ignore lower tipping domestic customers in their efforts to maximize their tip income. In addition, establishments that cater to large numbers of foreign guests who tip poorly may have a difficult time attracting service workers, who would prefer working for better tips elsewhere. One way to deal with these problems is to try to bring foreigners' tipping behavior more into line with local tipping norms by

posting tipping guidelines and reminders of the local norms in places where foreign guests will see them (see Bruni, 2008, for one advocacy of this approach). However, our findings and the underlying causal processes they suggest imply that such efforts are unlikely to succeed with many foreign travelers.

Tipping customs are not arbitrary rules that people will happily follow once they are known. Instead, they reflect psychological characteristics of national populations that do not change when those people travel. It will be difficult to discourage excessive tipping by travelers from countries where tipping is prevalent and tip amounts are large because people from those nations tend to like tipping. Similarly, it will be difficult to encourage greater tipping by travelers from countries where tipping is not very common and tip amounts tend to be small, because people from those countries tend to dislike tipping and to be relatively insensitive to any social pressures and appeals to social obligation that might be used to increase their tipping.

Instead of trying to change foreigners' inappropriate tipping behavior, it may be more effective for establishments with large numbers of foreign guests to pre-empt that behavior by simultaneously imposing automatic service charges and prohibiting employees from accepting tips. Such a policy would force poor tippers to adequately compensate servers and would keep big tippers from buying inordinate attention from servers. Establishments with smaller numbers of foreign guests will not want to impose such counter-normative policies on their mostly domestic customers, but they will also have a smaller problem with inappropriate tipping by foreigners and may be able to address those problems in other ways. For example, servers could be discouraged from

giving excessive (or inadequate) attention to foreign guests who tip lavishly (or poorly) by managerial monitoring and punishing of such behavior.

Counter-normative tipping policies for domestic customers. Although tipping is normative in many countries, managers of service workers in those countries may want to replace tipping with service charges as many resorts (Evans & Dave, 1999) and private clubs (Club Managers Association of America, 1996), as well as some hotels (Richards & Rosato, 1995) and restaurants (Wells, 2013) in the United States have done. Our findings and the underlying causal processes they suggest imply that such a move should be taken with caution in countries where tipping is prevalent. Tipping is prevalent in some countries because the people in them tend to like tipping, so moves to replace tipping with service charges in those countries may meet with consumer resistance and lower customer satisfaction.

When executives and managers in countries where tipping is prevalent do decide to adopt counter-normative service charge policies, our findings and the underlying causal processes they suggest imply that such policies should probably be accompanied by prohibitions against employees accepting tips. People in countries where tipping is prevalent tend to like tipping and to be sensitive to social pressure, so some of those people are likely to tip on top of service charges and this will create social pressures that lead others to begin tipping on top of service charges as well. This possibility means that adding service charges without prohibiting tipping may ultimately increase prices to consumers as they begin to tip on top of those service charges. To avoid this potential problem, service charges should probably be accompanied by prohibitions on employees accepting tips.

Encouraging new tipping norms. Tipping norms can change over time and some people may want to encourage norms for tipping in places, among populations or sub-populations, and for services that do not currently have them. Our findings and the underlying causal processes they suggest offer some guidance for these people as well. Specifically, our findings suggest that liking for tipping, social pressure and sense of duty are key drivers of tipping behavior and norms, so efforts to encourage tipping should focus on enhancing one or more of these reasons for tipping. For example, social pressures to tip can be enhanced by posting signs that say “Tips Welcome” and by placing the tips received in a public tip jar where everyone can see them. On the other hand, liking for tipping and sense of duty drive generosity of tip sizes, while social pressure does not, so efforts to encourage larger tips where they are already common, should emphasize the former reasons for tipping more than social pressures to tip. For example, attitudes toward tipping could be enhanced by placing funny or witty pro-tipping slogans on tip jars, signs, or menus.

5.3. Limitations of Our Study and Findings

Although the results of this study enhance our understanding of national differences in tipping and have practical implications as described above, the study has several limitations that should be acknowledged and addressed in future research. Specifically, our study and findings are limited by (i) small samples with many missing values, (ii) the age of some sources of data, and (iii) a cross-sectional, correlational design. Each of these limitations is discussed further in the paragraphs below.

Small samples with many missing values. National scores on the variables of interest in this study were available for only a few nations and those national samples

differed across measures. This meant that we had only a small data set with many missing values and this limited the multivariate analyses we could perform as well as the power of those we did perform. We addressed this problem in two ways. First, we averaged the tipping measures available for different but overlapping samples of nations to produce two indices with samples larger than those of their components. This was appropriate because Monte Carlo analyses indicate that it is a reasonable way to deal with missing data in one-dimensional, multi-item scales (Roth, Switzer & Switzer, 1999). Second, we used FIML techniques for handling missing data and checked the robustness of the results by comparing them with results from MI analyses. Although these different treatments of missing data produced some findings that differed from one another, they were remarkably consistent in their support or not of our hypotheses – differing only in support for hypothesis 4. Use of these advanced missing data techniques allowed us to get the most out of the data available to us, but there is clear need to replicate our findings with a larger sample of nations. A larger sample of nations would also permit use of more covariates in the analyses as well as tests of interactions between the predictors.

Age of some sources of data. National scores on the variables in this study came from secondary sources, some of which are several decades old. In particular, one of the three sources of data on the national prevalence of tipping was published in 1988 and the data on national personality and on sensitivity to social pressure was compiled from data originally published between 1975 and 1998. The age of these data raises concerns about their validities as measures of current national differences. Tipping customs do change over time (Azar, 2004a), but the measure of the prevalence of tipping based on Star's

1988 data correlated highly with the measure based on the Intercontinental Hotels Concierge survey conducted in 1998 ($r = .76$, $n = 20$, $p < .01$) and with the measure based on Starbuck's survey conducted in 2002 ($r = .87$, $n = 22$, $p < .01$), so any changes in tipping customs over the years do not appear to have appreciably altered the countries' relative positions on this dimension.

Although individual personality traits change over the lifespan (Ardelt, 2000), it is unclear how much national personality scores change or how quickly. Some evidence that the national personality scores used in this study have retained their validity can be found in their correlations with national subjective well-being from the late 1990's and related national personality traits from the same time period (Steel and Ones, 2002) as well as their correlations with tipping customs in this study. Nevertheless, it is possible that more recent national personality scores might produce stronger relationships with national tipping customs, so future researchers are encouraged to re-examine these relationships as new data becomes available.

Cross-sectional, correlational design. Although our results were consistent with the causal reasoning underlying many of our a-priori hypotheses, we had to rely on cross-sectional, correlational data to test those hypotheses. This means that the internal validity of our conclusions is weak. Although reverse causality is unlikely to explain the relationships of tipping customs to national sensitivity to duty and national sensitivity to social pressure, the same cannot be said for the relationships between tipping customs and national attitude toward tipping because social psychologists demonstrated long ago that behavior affects attitudes (Myers, 1994). Furthermore, third variable confounds could explain all the relationships observed in our study. Randomly assigning nations to

conditions in a true experiment is not possible, so these limitations could not be avoided. Nevertheless, future researchers should try to minimize the problems of reverse causality and confounding respectively by (i) measuring tipping customs at different points in time and testing predictors of changes in tipping customs, and (ii) generating and using larger national level data sets that permit the statistical control of more potential confounds.

6. Conclusions

In conclusion, the results of this study support several psychological explanations of national differences in tipping suggested by Lynn (2008). However, they also highlight the incompleteness of Lynn's proto-theory, because his three psychological reasons for tipping – liking of tipping, felt obligation to tip, and social pressures to tip – do not appear to explain national psychoticism and neuroticism effects on tipping customs. Numerous other reasons for tipping have been discussed in the tipping literature – e.g., to reward service (Azar, 2005; Lynn & McCall, 2000), to gain status (Shamir, 1984), to reduce server envy (Foster, 1972), to help servers (Azar, 2005; Saunders & Lynn, 2010), and to reduce uncertainty about the dining experience (Holland, 2009) – and they, along with psychological impediments to tipping, need to be incorporated into a more complete theory about the origins of tipping norms and the determinants of cross-cultural differences in those norms. Hopefully, this paper will encourage more cross-cultural researchers to undertake this and related work aimed at increasing our understanding of this varied and economically important social custom.

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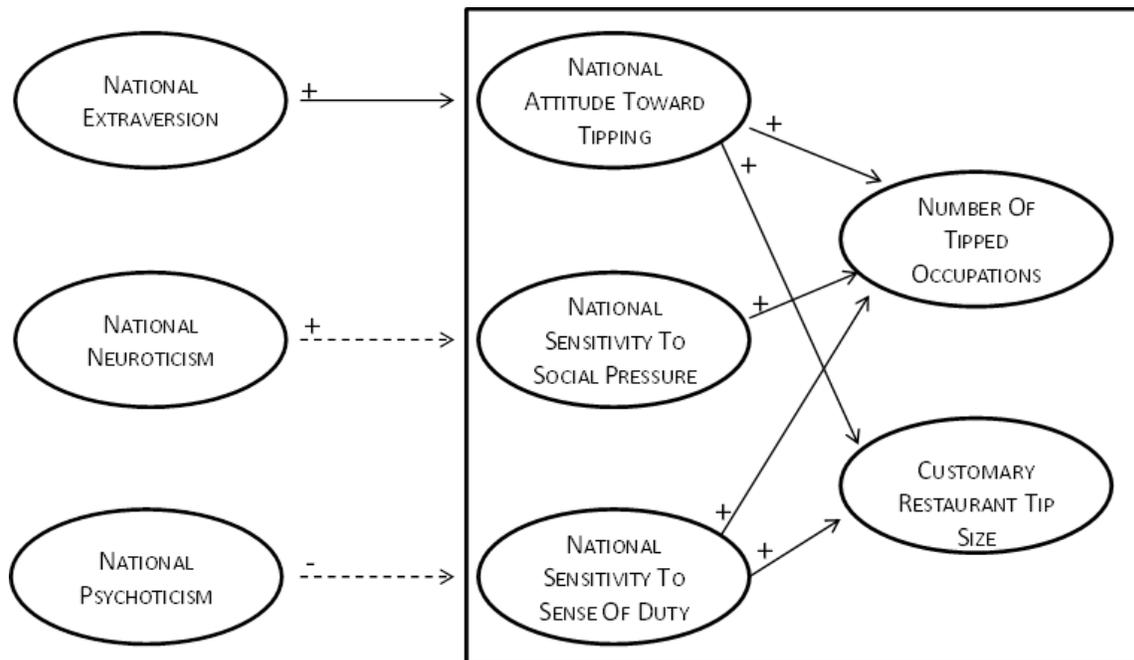


Figure 1. Depiction of the key relationships of interest in this study. Solid lines depict expected relationships receiving at least some support and dashed lines depict expected relationships receiving no support.

Table 1. Correlations between different measures of the prevalence of tipping from different sources.

	Starbuck's (2009) measure	Intercontinental Hotels Concierge measure	Index ^a
Lynn's (2000) measure	.87** (n = 22)	.76** (n = 20)	.97** (n=32)
Starbuck's (2009) measure		.56* (n = 18)	.93** (n = 30)
Intercontinental Hotels Concierge measure		.	.93** (n = 41)

[†] $p < .10$, * $p < .05$, ** $p < .01$

^a Index formed by averaging the standardized values of the other three measures. See method for details.

Table 2. Correlations between different measures of national restaurant tip rates from different sources.

	Fodor	Magellan	P&L	Index ^a
World Travel Guide	.61** (n = 26)	.67** (n = 19)	.48** (n = 36)	.88** (n = 43)
Fodor		.64** (n = 19)	.58** (n = 30)	.87** (n = 34)
Magellan			.55** (n = 35)	.89** (n = 49)
Presents & Law				.93** (n = 138)

† p < .10, * p < .05, ** p < .01

^a Index formed by averaging scores from the other four sources.

Table 3. Descriptive statistics for, and correlations among, the national-level variables in this study.

	N	Mean	Std. Deviation	Tip Size	E	N	P	Attitude	Duty	Pressure
Prevalence of Tipping (Prev)	58	-.0166	1.06159	.29 [†]	.21	.33 [†]	-.09	.72 ^{**}	.67 ^{**}	.47 [*]
				n = 44	n = 28	n = 28	n = 28	n = 30	n = 24	n = 28
Restaurant Tip Size (Tip Size)	160	10.2651	2.81916		.39 [*]	.15	-.04	.50 [*]	.43 [*]	-.24
					n = 32	n = 32	n = 32	n = 23	n = 27	n = 32
Extraversion (E)	39	18.5977	2.04614			-.35 [*]	-.03	.38	.12	.01
						n = 39	n = 39	n = 20	n = 21	n = 39
Neuroticism (N)	39	14.4917	2.19569				.25	-.28	.01	-.01
							n = 39	n = 20	n = 21	n = 39
Psychoticism (P)	39	4.7204	1.60910					-.27	.26	-.01
								n = 20	n = 21	n = 39
Attitude to Tipping (Attitude)	30	1.8720	.45640						.48 [†]	.14
									n = 17	n = 20
Sensitivity to Duty (Duty)	32	62.3750	13.67067							.50 [*]
										n = 21
Sensitivity to Social Pressure (Pressure)	39	15.3540	3.31159							
Valid N (listwise)	12									

[†] p < .10, * p < .05, ** p < .01

Table 4. Coefficients and standard errors from regression models predicting tipping customs while dealing with missing data via Full Information Maximum Likelihood (FIML), multiple imputation (MI), and listwise deletion (LD).

	Model 1:			Model 2:		
	Prevalence of Tipping			Customary		
	(a)	(b)	(c)	(a)	(b)	(c)
	FIML	MI	LD	FIML	MI	LD
Attitude toward Tipping	1.68** (.17)	1.62** (.28)	2.21** (.47)	2.31 [†] (1.18)	1.85 (1.64)	3.30 (4.46)
Sensitivity to Duty	.02** (.01)	.02** (.01)	.004 (.02)	.17** (.04)	.15* (.06)	.36* (.12)
Sensitivity to Social Pressure	.04 [†] (.02)	.06 [†] (.03)	.05 (.04)	-.63** (.15)	-.51* (.19)	-.45 (.46)
National Extraversion	-.05 (.04)	-.01 (.06)	-.17 (.14)	.14 (.26)	.31 (.26)	.61 (1.03)
National Psychoticism	-.08 (.05)	-.07 (.07)	-.16 [†] (.08)	-.80* (.33)	-.65 [†] (.38)	-1.04 (.58)
National Neuroticism	.23** (.03)	.23** (.05)	.32** (.06)	.35 [†] (.21)	.38 (.28)	-.51 (.54)

[†] p < .10, * p < .05, ** p < .01

Note: The sample size for Model 1c was 14 and for Model 2c was 12.

Table 5. Coefficients and standard errors from regression models predicting proposed mediators from national personality traits while dealing with missing data via Full Information Maximum Likelihood (FIML), multiple imputation (MI), and listwise deletion (LD).

	Model 3:			Model 4:			Model 5:		
	Attitude toward Tipping			Sensitivity to Duty			Sensitivity to Social Pressure		
	(a)	(b)	(c)	(a)	(b)	(c)	(a)	(b)	(c)
	FIML	MI	LD	FIML	MI	LD	FIML	MI	LD
Extraversion	.09*	.08 [†]	.10 [†]	2.89*	1.97	2.20	-.02	-.04	-.03
	(.04)	(.04)	(.05)	(1.12)	(1.27)	(1.85)	(.27)	(.29)	(.29)
Psychoticism	-.08	-.07	-.09	3.22*	2.30	4.63	-.15	-.11	-.14
	(.05)	(.06)	(.07)	(1.40)	(2.14)	(3.03)	(.34)	(.37)	(.36)
Neuroticism	-.03	-.03	-.04	.35	.07	.61	-.09	-.13	-.13
	(.04)	(.04)	(.05)	(1.08)	(1.15)	(1.76)	(.26)	(.27)	(.28)

[†] $p < .10$, * $p < .05$, ** $p < .01$

Note: The sample size for Model 3c was 20, for Model 4c was 21, and for Model 5c was 39.

Table 6. Sobel-test statistics for hypothesized indirect effects while dealing with missing data via Full Information Maximum Likelihood (FIML), multiple imputation (MI), and listwise deletion (LD).^a

Indirect Effect	Expected Direction	Missing Data Technique		
		FIML	MI	LD
H7: NE -> ATT -> PT	(+)	2.32 [*]	1.85 [†]	1.91 [†]
H8: NE -> ATT -> CTS	(+)	1.44	.98	.70
H9: NP ->SD -> PT	(-)	1.87 [†]	.84	.26
H10: NP -> SD -> CTS	(-)	1.99 [*]	.99	1.36
H11: NN -> SSP ->PT	(+)	-.32	-.47	-.44

[†] p < .10, * p < .05, ** p < .01

^a NE = national extraversion, NP = national psychoticism, NN = national neuroticism, ATT = national attitude toward tipping, SD = national sensitivity to duty, SSP = national sensitivity to social pressure, PT= prevalence of tipping, CTS = customary restaurant tip size