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THE EFFECT OF THE MINIMUM SERVER WAGE ON RESTAURANT GUEST TIPPING BEHAVIOR AND PERCEPTIONS

By

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2008

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A dissertation submitted in partial fulfillment
of the requirements for the

Doctor of Philosophy – Hospitality Administration

William F. Harrah College of Hospitality
The Graduate College

University of Nevada, Las Vegas
August 2019

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The Effect of the Minimum Server Wage on Restaurant Guest Tipping Behavior and Perceptions

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ABSTRACT

THE EFFECT OF THE MINIMUM SERVER WAGE ON RESTAURANT GUEST TIPPING BEHAVIOR AND PERCEPTIONS

by

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Restaurant server income is predominantly composed of tips received from guests and the minimum server wage received from restaurants. Grounded in equity theory, this dissertation investigated the effect of the minimum server wage, in combination with established antecedents of voluntary tipping, on tipping rate and examined guest perceptions of fairness of the minimum server wage and three prevalent tipping policies (voluntary tipping, automatic service charge, and service inclusive pricing). Two experiments were conducted, a 2 (minimum server wage) x 2 (service quality) experimental design, and a 2 (minimum server wage) x 3 (tipping policy) experimental design. The results revealed that the minimum server wage and voluntary tipping familiarity have moderating roles on the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping. In addition, voluntary tipping has higher perceived fairness and higher perceived value than automatic service charge and service inclusive pricing.

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CHAPTER ONE

INTRODUCTION

Consumers around the world routinely engage in the practice of tipping after services have been performed by various service professionals such as restaurant servers, bartenders, taxi drivers, porters, golf caddies, and hair stylists (Azar, 2011; Lynn & Grassman, 1990; Lynn & McCall, 2000; Lynn & Starbuck, 2015). A traditional tip is discretionary consideration, transferred from a customer to a service provider, supplementing contractual consideration for goods and services rendered (Bodvarsson & Gibson, 1994; Lynn, 2006b; Shamir, 1984). Tipping is an intriguing and a unique phenomenon because it is an example of a distinct economic transaction that is neither underpinned by a legal requirement nor a transactional obligation (Azar, 2003, 2004a; Bodvarsson & Gibson, 1994; Lynn & Grassman, 1990). Tipping is particularly pervasive and entrenched in the foodservice industry as the estimated total economic value of tipping in American restaurants exceeded $46.5 billion in 2009 (Azar, 2011). Early tipping studies were conducted largely from psychological and sociological perspectives as researchers were interested in emotional motivations for consumers to voluntarily adhere to the social norm of tipping (Crespi, 1947; Freeman, Walker, Borden, & Latané, 1975; Holloway, 1985; Lynn, 2006b; Lynn, Zinkhan, & Harris, 1993; Shamir, 1984). However, due to the considerable fiscal scale of this phenomenon, restaurant tipping has subsequently received increased attention from an economic centered perspective (Azar, 2003, 2007b, 2011, 2012; Lynn & Starbuck, 2015; Lynn & Wang, 2013).

Fundamentally, tipping is an economic transaction where one agent pays another agent in exchange for providing a service (Azar, 2005a; Azar, Yosef, & Bar-Eli, 2015; Lynn, 2001). Although the mechanical process of tipping is wholly economical by nature, pure neo-classical

economic theory is unable to definitively explain and predict this phenomenon (Azar et al., 2015; Bodvarsson & Gibson, 1997). For example, the concept of economic pure self-interest would suggest that one-time restaurant guests would strive to maximize their utility by not tipping after receiving service, and that contrary actions would be seemingly irrational (Azar, 2011; Conlin, Lynn, & O'Donoghue, 2003; Frank, 1987). As neo-classical economic theory is inadequate in fully elucidating tipping, researchers have turned to behavioral economics and social economics (Azar, 2003, 2005a; Bodvarsson & Gibson, 1999), two economic subfields that consider the role of social norms, to enhance understanding of this phenomenon. Established in psychology, social norms affect economic behavior as psychologists suggest that people conform to social norms as a means to be liked and accepted by others (Aronson, Wilson, & Akert, 1999, p. 294), resulting in attainment of positive emotional utility. If a restaurant guest violates the social norm of tipping, s/he incurs emotional disutility through feelings of embarrassment, guilt, unfairness, and self-image impairment (Azar, 2003). Empirical studies indicate that rudimentary neo-classical economic theory supplemented with behavioral motivations, such as social norms conformity, can explicate the economic elements of the tipping phenomenon (Azar, 2003; Bodvarsson & Gibson, 1997; Greenberg, 2014).

Server income in the United States is generally composed of two components, a direct hourly wage received from employers and tips received from restaurant guests (Azar, 2012; Lynn, 2017a; Wessels, 1997), with tips comprising a majority share (Azar, 2003a, 2005a, 2009; Lin & Namasivayam, 2011; Miller, 2010; Wessels, 1997). American restaurants characteristically remunerate servers at the lowest possible legal wage (Anderson & Bodvarsson, 2005; Lin & Namasivayam, 2011; Sturman, 2001; Wessels, 1997), a wage that is governed by federal, state, county, and municipal legislations. Consequently, as of January 1, 2019, the

minimum server wage spectrum in the United States ranges widely from $2.13 per hour to $16.00 per hour (City of Seattle, 2019; US Department of Labor, 2019b; Working Washington, 2019).

Voluntary tipping, the most ubiquitous form of tipping in the United States, occurs autonomously after services have been fully rendered and transactional consideration has been transferred from guest to restaurant (Azar, 2012; Bodvarsson & Gibson, 1997; Brown & Rolle, 1991; Lynn & Wang, 2013). The amount of such tips, if any, is determined at the guest's sole discretion and is paid directly from agent to agent, guest to server. Compulsory tipping, an alternative to traditional voluntary tipping, occurs when a mandatory supplemental fee is added to the transactional consideration that is transferred from guest to restaurant (Azar, 2012; Brown & Rolle, 1991). Automatic service charge and service inclusive pricing are two tipping policies that are categorized as compulsory tipping (Azar, 2012; Lynn, 2006a; Lynn & Wang, 2013; Wang & Lynn, 2017). An automatic service charge is a fee that is calculated as a percentage of the total menu charges and added to the bill (Azar, 2012; Lynn & Wang, 2013). Service inclusive pricing incorporates the compulsory tip component directly into the price of each menu item resulting in higher menu item prices (Azar, 2012; Lynn & Wang, 2013). Restaurants employing either automatic service charge or service inclusive pricing would explicitly communicate to guests that voluntary tipping at the end of the meal is neither expected nor required (Azar, 2012), and would transfer the compulsory tip amount to servers through either an increased direct wage or a tip out (Azar, 2012; Namasivayam & Upneja, 2007).

Restaurant tipping is an intriguing topic that continues to capture the attention of both contemporary researchers and industry stakeholders. Discussions regarding the appropriateness of different tipping policies (Azar, 2004a; Evans & Dave, 1999; Lynn, 2006a; Wang & Lynn,

2007) and the minimum wage applicable to servers (Anderson & Bodvarsson, 2005; Azar, 2004a; Sturman, 2001; Wessels, 1997) are not novel. However, topical public discourse and public policy trends surrounding increases to the minimum server wage across the United States (Even & Macpherson, 2014; Koku & Savas, 2016; Lynn, 2017b) have revitalized interest in the suitability of competing tipping policies (Azar, 2012; Lynn, 2018; Lynn & Brewster, 2018; Lynn & Wang, 2013; Wang & Lynn, 2017). Legislative directives and public opinion surrounding the minimum server wage and tipping policies are notably important to restaurant operators as both elements significantly, and directly, influence total labor cost (Azar, 2011, 2012; Lynn & Withiam, 2008).

Average labor cost for publicly-traded full-service restaurants between 1973 and 2012 was 30.52% of total revenue (Mun & Jang, 2018) and median labor cost was 32.50% of total revenue in 2014 (National Restaurant Association & Deloitte & Touche LLP, 2016). It is reasonable to expect labor cost to persist as a significant expense item on restaurant income statements due to low unemployment rates (Maze, 2018) and recently enacted legislations supporting higher minimum server wages in numerous jurisdictions including: Seattle - $16.00 per hour (City of Seattle, 2019); San Francisco - $15.59 per hour (City and County of San Francisco, 2019); and the City of New York - $15.00 per hour (New York State, 2019). Median pre-tax income for full-service restaurants in 2014 amounted to 6.10% of total sales (National Restaurant Association & Deloitte & Touche LLP, 2016), accentuating that restaurants operate with low profit margins and that restaurateurs need to deliberately focus on understanding and controlling labor costs.

Purpose of the Study

Gaps in the tipping literature, along with contemporary public debate surrounding the minimum server wage, have led to calls for further research on the effect of the minimum server wage and the effect of tipping policy on the restaurant industry (Even & Macpherson, 2014; Lynn, 2017b, 2018; Lynn & Brewster, 2018; Lynn & Wang, 2013; Wang and Lynn, 2017). As no past study has simultaneously examined guest perceptions of the minimum server wage in conjunction with tipping policy, this dissertation will pioneer such an investigation. The purpose of this research is to understand the boundary effects of the minimum server wage and tipping policy on guest tipping behavior and attitudes. Insights gained will contribute to enhanced understanding of the tipping phenomenon in the restaurant industry. The overarching objective of this dissertation is to investigate the effect of the minimum server wage, in combination with established antecedents of voluntary tipping, on tipping rate and examine guest perceptions of fairness and value towards the minimum server wage and restaurant tipping policies. Three prevailing modern tipping policies will be examined: voluntary tipping, automatic service charge, and service inclusive pricing.

Research Questions

The aforementioned research objectives will be achieved through two distinct studies. Focusing on voluntary tipping, Study One investigates the influence of the minimum server wage on tipping rate while considering established antecedents of tipping comprising of service quality, perceived fairness, empathy, and familiarity. Specifically, Study One addresses the research question: Is there a relationship between the minimum server wage and tipping rate? Study Two directs attention towards guest perceptions of the minimum server wage in combination with tipping policy while controlling for empathy. Distinctively, Study Two

addresses the research question: Are perceived fairness of tipping policy and perceived value of restaurant purchases affected by the minimum server wage and tipping policy?

Significance of Study

This current research contributes to both theoretical literature and practical knowledge of restaurant tipping. From a theoretical perspective, this current investigation is unique as it explores the effect of the minimum server wage on guest tipping behaviors and attitudes while pioneering an inquiry of the minimum server wage and tipping policy taken together. Since initially capturing the attention of academicians in the mid-20th century, restaurant tipping has been prolifically researched, particularly over the past three decades. Specific attention has focused on the motivators and the predictors of voluntary restaurant tipping. Numerous studies have found support for the influence of social norms and a desire for guests to enforce and maintain equitable relationships with servers as primary motivations for voluntary tipping (Azar, 2003, 2004b, 2005a; Lynn et al., 1993; Lynn & Graves, 1996; Lynn & Sturman, 2010). The equitability of the minimum wage, and distinctively the minimum server wage as it pertains to the restaurant industry, has also been deliberated (Azar, 2004a, 2012; Baker, 2018; Ingraham, 2018; Leins, 2018). However, the literature has not explored the association between the minimum server wage and tipping behavior nor has it investigated the relationship between the minimum server wage and tipping policies from a guest perspective. The conventional restaurant tipping rate has increased from 15% in the 1980s to the current average of 20% (Azar, 2004b; Shy, 2015), while the lowest minimum server wage of $2.13 per hour has prevailed since 1991 (Allegretto & Nadler, 2015; Jones, 2016; US Department of Labor, 2019b). This dissertation contributes to restaurant tipping literature by combining the minimum server wage with established tipping motivations of adhering to social norms and maintaining equitable

guest-server relationships. Study One responds directly to Even and Macpherson's (2014) call for research into how tip credits used to derive a tipped minimum wage, a minimum server wage that falls below the federal minimum wage, affect servers' pay composition and their specific question of "Do customers respond to higher wages of tipped workers by cutting back on tips?" (Even & Macpherson, 2014, p. 655). Using panel data covering a 20-year period, Allegretto and Nadler (2015) found that a 10% increase in the tipped minimum wage only increased the income of servers employed at this wage by 0.4% and suggested that future research could benefit from inquiries into the components and composition of server pay. Study One seeks to respond to this appeal by investigating whether voluntary tipping rate is influenced by the minimum server wage.

Past research on tipping policies have focused on the effect of competing policies on outcomes such as restaurant labor costs (Lynn, 2017b), consumer preferences (Lynn, 2006a), customer satisfaction (Lynn, 2017b, 2018; Lynn & Brewster, 2018), and guest deal perception (Wang & Lynn, 2017). The results of these previous studies have established a basis to petition for future research on the intricacies of tipping policies, including relative expensiveness (Lynn, 2006a); other benefits and costs (Lynn, 2018); measures of nuanced differences (Lynn & Brewster, 2018); guest expectations, patronage, and spending (Lynn & Brewster, 2018); guest perceptions of fairness (Wang & Lynn, 2017); and the role of familiarity (Lynn, 2017b). Extant minimum server wage research has focused primarily on the relationship between the minimum server wage and menu pricing (Aaronson, French, & MacDonald, 2008; Allegretto & Reich, 2018; Dube, Naidu, & Reich, 2007; Fougère, Gautier, & Le Bihan, 2010; Lemos, 2004; MacDonald & Aaronson, 2006), leaving a notable gap in the relationship between the minimum server wage and restaurant tipping as a pricing mechanism. Since tipping facilitates the

partitioning of prices between the value offerings of tangible food product and intangible service delivery, tipping literature has advocated the use of tipping as a pricing mechanism (Lynn & Wang, 2013; Lynn & Withiam, 2008; Wang & Lynn, 2017). Researchers have articulated that the relationship between tipping and pricing requires further examination (Lynn & Wang, 2013). Study Two aims to contribute to this area of the tipping literature by examining the relationships among the minimum server wage, tipping, and pricing.

Past minimum wage studies have centered around relatively smaller increases of the minimum wage, such as the 1996-1997 increase to the federal minimum wage from $4.25 per hour to $4.75 per hour on October 1, 1996 and to $5.15 on September 1, 1997 (Bernstein & Schmitt, 1998). Contemporary increases to the minimum wage, and correspondingly the minimum server wage, are relatively larger, such as an increase from $10.50 to $15.00 over a three-year period in New York (New York State, 2019). Considerable increases to the binding minimum wage will have significant practical implications for restaurant operators. This research will provide new insights for restaurant operators to consider as they adapt current business models in response to evolving labor regulations levied onto their industry. Investigating the combined effect of the minimum server wage and tipping policy is significant to restaurateurs as the restaurant industry characteristically operates with high operating expenses (Mun & Jang, 2018) and low profit margins (National Restaurant Association & Deloitte & Touche LLP, 2016). If voluntary tipping rates decline as guests become familiar with higher minimum server wages, the burden of responsibility for remunerating servers will shift further from guests to operators, successively increasing labor costs and further eroding profitability. Substituting voluntary tipping with an alternative tipping policy may be an

effective solution for restaurant operators to address this challenge. This research endeavors to provide insight into the viability of this opportunity.

Delimitations

Limitations of this research include the following:

1. This research is restricted to restaurant servers and does not consider other restaurant positions that frequently receive tips, such as bartenders, hosts/hostesses, and maître d'hôtels.
2. This research focuses exclusively on external tipping policies. Internal tipping policies involving tip pooling and tip sharing between servers and other restaurant staff are beyond the scope of this investigation.
3. The research results may not generalize to non-restaurant tipping situations.
4. The studies conducted for this research utilized online hypothetical scenarios depicting a restaurant dining scenario. Consequently, research findings are bounded by ecological validity, limiting the generalizability of results beyond the context of this dissertation. To mitigate against this limitation, realism checks of the experimental designs were conducted to ensure that experiment conditions are sufficiently realistic and comparable to real-world restaurant situations.
5. Participants were recruited by an online market research firm and data were collected using online hypothetical scenarios that did not involve real monetary transactions. Consequently, the results of this study may not reflect actual guest tipping behavior or perceptions. The majority of social sciences experimental research is bounded by similar limitations. To address this limitation, internal validity of this current research has been verified.

Definition of Key Terms

Key concepts and terminology of the current research are defined as follows:

Minimum server wage: The lowest legal hourly wage that a restaurant can remunerate tipped servers; equal to the prevailing minimum wage in a restaurant's jurisdiction of operation less any available tip credit (US Department of Labor, 2019a, 2019b).

Tip: A monetary gift transferred from one agent to another agent (Bodvarsson & Gibson, 1994; Lynn, 2006b; Shamir, 1984).

Voluntary tipping policy: An ubiquitous form of restaurant tipping in the United States where tips are transferred directly from guest to server; the amount of monetary consideration is determined at the guest's sole discretion (Azar, 2003, 2004a; Bodvarsson & Gibson, 1994; Lynn, 2006b; Lynn & Grassman, 1990).

Compulsory tip: A mandatory surcharge collected by a restaurant through either an automatic service charge or service inclusive pricing; the amount of monetary consideration is determined by the restaurant (Azar, 2012; Brown & Rolle, 1991; Lynn, 2006a; Lynn & Wang, 2013; Wang & Lynn, 2017).

Automatic service charge: A fee calculated as a percentage of total food and beverage charges that is added to a guest's bill (Azar, 2012; Lynn & Wang, 2013).

Service inclusive pricing: A compulsory tipping policy where the mandatory surcharge is embedded directly into the price of each menu item (Azar, 2012; Lynn & Wang, 2013).

Service quality: A guest's discernment of the overall superiority of a service encounter (Kivela, Inbakaran, & Reece, 1999; Zeithaml, 1988) conducted by comparing anticipated service quality with perceptions of actual service quality received (Grönroos, 1982; Parasuraman, Zeithaml, & Berry, 1985).

Perceived fairness: A judgment of the reasonableness and justness of a process or outcome (Bolton, Warlop, & Alba, 2003; Lynn & Wang, 2013).

Perceived value: The degree of perceived quality relative to price (Fornell, Johnson Anderson, Cha, & Bryant, 1996; Oh, 2000; Qin & Prybutok, 2008; Zeithaml, 1988).

Summary

The contextual foundation of restaurant tipping and the minimum server wage were discussed in this chapter. Possible relationships between the minimum server wage and tipping behavior, gaps in the literature, and considerations for restaurant operators were presented. The following chapter will review extant literature on restaurant tipping, the minimum server wage, and the theoretical foundation of this research. Hypotheses will be presented throughout Chapter Two. Chapter Three will present the research methodology and Chapter Four will present study results. Lastly, Chapter Five will discuss research findings, theoretical implications, practical considerations, and directions for future research.

CHAPTER TWO

REVIEW OF LITERATURE

This chapter comprehensively reviews the literature beginning with restaurant tipping and the minimum server wage. Next, the theoretical background for this research is presented with a review of neo-classical economics, behavioral economics, social norms theory, and equity theory. Subsequently, literature is reviewed on constructs of interest comprising of service quality, perceived fairness, empathy, perceived value, and familiarity. Research hypotheses formulated with theoretical support in the extant literature are presented throughout this chapter and summarized at the end.

Restaurant Tipping

Restaurant tipping is an economic transaction where monetary consideration is exchanged between two economic agents; guest and server (Azar, 2005a; Azar, Yosef, & Bar-Eli, 2015; Lynn, 2001). Due to its significant economic scale, tipping is an extensively researched topic and a prominent phenomenon engrained in the American restaurant industry (Azar, 2009, 2011; Lynn, 2006b; Lynn & Wang, 2013; Mok & Hansen, 1999). As tips are frequently under-reported to taxation authorities (Azar, 2009, 2011; Hemenway, 1993; Lynn, 2018), the magnitude of tipping needs to be estimated (Azar, 2009, 2011). The estimated value of tipping in American restaurants was nearly $42 billion in 2005 (Azar, 2007c), exceeded $46.5 billion in 2009 (Azar, 2011), and, following the approximation method used in these two estimates, exceeded $68 billion in 2017. Azar, an economist and prolific tipping researcher, calculated the 2005 and 2009 estimates by first referencing a study of tipping in American restaurants that reported an average tip amount of $6.52 on an average bill size of $34.67 for a weighted-average tip percentage of 18.8% (Parrett, 2003, Table 14). Next, annual sales of food

and alcoholic beverages as per the Statistical Abstract of the United States (US Census Bureau, 2010), an annual report published by the US federal government from 1878 to 2011 (ProQuest, 2019), were examined. Specifically, the 2009 sales in the following categories were aggregated: full-service restaurants - $182.9 billion; snack and non-alcoholic beverages - $19.9 billion; bars and taverns - $17.1 billion; and lodging places - $28.0 billion (US Census Bureau, 2010). The weighted average tip percentage of 18.8% was multiplied by the total sales in these categories, $247.9 billion, to provide an estimated 2009 tipping total of $46.6 billion. Since 2013, ProQuest has assumed responsibility for disseminating the Statistical Abstract of the United States (ProQuest, 2019). To determine an updated estimate of the economic value of tipping, Azar's approximation method was followed and the following 2017 food services revenues in the Statistical Abstract of the United States 2019 Online Edition were identified: drinking places (alcoholic beverages) - $25.7 billion; full-service restaurants - $290.9 billion; and snack and non-alcoholic beverage bars - $47.3 billion (ProQuest, 2019). The sum of these three categories is equal to $363.9 billion. The product of the weighted average tip percentage of 18.8% (Parret, 2003, Table 14) and total food and beverage sales of $363.9 billion provides an estimated 2017 tipping total of $68.4 billion.

In addition to the considerable macroeconomic magnitude of the tipping phenomenon, tipping is also significant from a micro perspective as tips compose a majority share of total server income, approximately 58% (Azar 2009, 2011; Wessels, 1997), while direct employer wages represent the remaining minority portion (Azar, 2003, 2005b, 2007a; Brown & Rolle, 1991; Lin & Namasivayam, 2011).

Voluntary Tipping

Voluntary tipping, the most established tipping policy in the United States, involves a voluntary transfer of monetary consideration from guest to server after services have been fully rendered (Azar, 2012; Bodvarsson & Gibson, 1997; Brown & Rolle, 1991; Lynn & Wang, 2013; Miller, 2010). As there is no contractual obligation underlying this tipping policy (Azar, 2003; Azar et al., 2015; Bodvarsson & Gibson, 1994; Lynn, 2006b; Lynn, Zinkhan, & Harris, 1993; Shamir, 1984), guests determine the amount of tip, if any, at their sole discretion (Lynn & Grassman, 1990). This unique characteristic is different from conventional economic transactions where the sum of monetary consideration is negotiated and agreed upon by both agents in a transaction. The economic transaction arising from voluntary tipping, between guest and server, is separate from the economic transaction between guest and restaurant pertaining to payment for menu items purchased. When a guest orders a meal at a restaurant, both agents in this transaction, the guest and the restaurant, have agreed upon the monetary consideration, the stated menu price, to be exchanged for the service of preparing the meal. By ordering a menu item, the guest effectively accepts the restaurant's negotiated price.

Restaurant guests ordinarily tip servers a percentage of the bill amount, a value known as the tipping rate (Shy, 2015). Tipping literature has found that guests tend to tip proportionate to service quantity (Bodvarsson & Gibson, 1994). As service quantity is often approximated by bill size, guests often tip as a percentage of the bill. Servers benefit from the use of tipping rate to determine tip amount as this practice protects tip income against inflation, even if tipping rate remains constant over time (Shy, 2015). Anecdotal evidence from casual dialog amongst guests and the common use of tipping rate as a variable to measure tipping behavior by researchers (Azar, et al., 2015; Bodvarsson & Gibson, 1994; Kim, Nemeschansky, & Brandt, 2017; Lynn &

Wang, 2013; O'Neil, 2015) indicate that tipping rate is a suitable unit of measure for appraising and measuring the magnitude of restaurant tipping.

A study of the influence of national values on worldwide tipping behavior found that average restaurant tipping rate in 2001 varied widely from 3% in Yugoslavia to nearly 17% in The United States (Lynn & Lynn, 2004). This extensive global range of tipping rate, stretching over fourteen percentage points, provides a preface of the degree of complexity underlying the determinants of tipping rate. The conventional tipping rate implied in American society has progressively escalated from 10% at the turn of the 20th century to 15% in the 1980s and to 20% by the beginning of the 21st century (Azar, 2004b; Shy, 2015). These customary anecdotal average tipping rates are generally consistent with findings from empirical studies (Bodvarsson & Gibson, 1999; Lynn, 2006b; Lynn & Grassman, 1990; Parrett, 2003).

Several disadvantages are associated with this traditional tipping policy. As voluntary tipping requires guests to directly contribute to servers' income, servers are effectively held accountable to two different agents, guests and restaurants. Dual accountability leads to role conflict when guests and restaurants present servers with incongruent objectives (Miller, 2010; Shamir, 1980). As tips compose the majority share of total income, voluntary tipping provides servers with a monetary incentive to meet guest objectives at the expense of restaurant objectives in role conflict situations (Jacob & Page, 1980; Lynn & Wang, 2013). Examples of server behaviors that benefit select guests while disadvantaging restaurants include giving away menu items free of charge and providing high levels of service quality to guests perceived to be good tippers to the detriment of service quality delivered to guests perceived to be poor tippers (Brewster, 2013, 2015; Harris, 1995; Lynn & Withiam, 2008). Furthermore, a dependence on guests to voluntarily compensate servers produces unreliable income for servers while enabling,

and arguably encouraging, income tax evasion (Feintzeig, 2018; Lynn, 2017b, 2018; Lynn & Withiam, 2008; Namasivayam & Upneja, 2007; Picchi, 2014). Finally, although restaurants are able to minimize direct labor costs by transferring a significant portion of server remuneration responsibility to guests, the foodservice industry is inundated with high server turnover (Lynn, 1996; Mok & Hansen, 1999), which successively adds to overall restaurant operating costs through increased hiring and training expenses. High server turnover rates may be influenced by the combination of low direct wages and unreliable tip income (Miller, 2010).

Other effects of voluntary tipping include pricing implications as the practice allows restaurants to set nominal menu prices at economically efficient levels (Miller, 2010). Nominal restaurant prices are distinct fees that are either explicitly stated prices (e.g., menu prices) or unstated implicit surcharges (e.g., taxes and tips) that discretely represent components of a guest's total cost to dine (Lynn, 2006a; Lynn & Withiam, 2008). In contrast, a real restaurant price represents the total cost to dine and is equal to the sum of all explicit and implicit nominal prices (Lynn, 2006a; Lynn & Withiam, 2008). Restaurants are able to partition value offerings between tangible food products and intangible service delivery through voluntary tipping (Lynn & Withiam, 2008). Under a voluntary tipping policy, menu prices correspond to the tangible food component of a meal, while voluntary tips correspond to the intangible service delivery element of a dining experience. As a result, restaurants are able to set explicit menu prices at lower levels since menu prices only represent a portion of the total meal cost. Under this system, the cost of the service component of the meal is represented by the voluntary tip transferred directly from guest to server. As voluntary tipping occurs after all services have been rendered, the server does not hold any bargaining power in the determination of the tip amount representing the monetary consideration of the tipping transaction. Since only one agent, the

guest, determines the amount of consideration, tipping can be considered a form of voluntary pricing (Lynn & Wang, 2013). Voluntary pricing provides guests with the authority to evaluate service quality and subsequently compensate servers appropriately in order to maintain an equitable agent to agent relationship.

Compulsory Tipping

Deliberation of the validity and the appropriateness of traditional voluntary tipping in the contemporary restaurant industry has received renewed attention from both industry professionals and academic researchers (Lynn, 2017b, 2018; O'Neil, 2015; Walker, 2018). Compulsory tipping, an alternative to voluntary tipping, replaces a guest's discretionary tip with a mandatory surcharge that is integrated into the transactional consideration transferred from guest to restaurant (Azar, 2012; Brown & Rolle, 1991; Lynn & Wang, 2013). Guests dining at restaurants operating with a compulsory tipping policy are not expected to leave any additional volitional consideration. Compulsory tipping encompasses two distinct tipping policies that allow restaurants to collect the mandatory surcharge representing the tip; automatic service charge and service inclusive pricing (Azar, 2012; Lynn, 2006a; Lynn & Wang, 2013; Wang & Lynn, 2017). The mandatory surcharge collected under an automatic service charge tipping policy, known as a service charge, is a nominal price that is calculated as a percentage of total menu item charges and explicitly added to the bill. Alternatively, under a service inclusive pricing tipping policy, the mandatory surcharge is embedded directly into the price of each menu item. Servers employed at restaurants utilizing either compulsory tipping policy would either receive a higher direct hourly wage or receive a tip out from the restaurant (Azar, 2012; Namasivayam & Upneja, 2007). Notwithstanding the economic equivalence of automatic service charge and service inclusive pricing, when the compulsory surcharge is held constant,

research indicates that guests have different perceptions and attitudes towards these two types of compulsory tipping policies (Lynn & Wang, 2013; Wang & Lynn, 2017).

Among the three available tipping policies (voluntary, automatic service charge, and service inclusive pricing), research of guest attitudes has found a preference for voluntary tipping (Azar, 2010; Lynn, 2017b). Guests may prefer voluntary tipping due to popular perception that this policy increases service quality and affords an element of perceived control over a dining experience. Past research has found that guests with higher levels of perceived control are more likely to have higher levels of satisfaction with a service encounter (Averill, 1973; Hui & Bateman, 1991; Kimes, 2009). As a form of voluntary pricing, voluntary tipping increases guest perceptions of control as this policy provides an opportunity for guests to mitigate against a poor dining experience by tipping less or not tipping at all. By tipping after all services have been rendered, guests have an opportunity to evaluate and consider service quality when determining an amount to tip, thereby supporting a common belief that voluntary tipping is a strong motivator for servers to deliver high levels of service quality (Kwortnik, Lynn, & Ross, 2009; Lynn & Brewster, 2018; Lynn & Wang, 2013).

Minimum Server Wage

Restaurants in the United States pervasively remunerate servers at the lowest wage allowable by law (Anderson & Bodvarsson, 2005; Lin & Namasivayam, 2011; Namasivayam & Upneja, 2007; Seok, Kim, & Mark, 2017; Sturman, 2001; Wessels, 1997). Multiple jurisdictional levels, including city, county, and state, possess authority to pass legislation with respect to the minimum wage, provided that the federal minimum wage is at least satisfied. As of January 1, 2019, the federal minimum wage is $7.25 per hour, however restaurants operating

in select jurisdictions are able to legally remunerate servers at a considerably lower wage due the availability of a tip credit in various states.

Attributed to the prevalence of tipping, certain US jurisdictions have a tipped minimum wage that is calculated by applying a tip credit against the prevailing federal minimum wage, resulting in a legal wage below the federal minimum wage referred to as the tipped minimum wage (US Department of Labor, 2019b). The Fair Labor Standards Act (FLSA) stipulates that an employee must regularly collect at least $30 a month in tips to classify as a tipped employee and subsequently receive the tipped minimum wage (US Department of Labor, 2019a). As servers working in restaurants with a voluntary tipping policy meet the criteria of a tipped employee, the minimum server wage is equal to the tipped minimum wage where such a wage exists. In order for a restaurant to apply an available tip credit, a server's hourly tips must be at least equal to the amount of the tip credit. A labor economics study of the US restaurant server labor market found that the 1999 average total hourly income, composed of direct employer wages and tip income, of servers employed in states with a tip credit was 30% higher than the federal minimum wage (Anderson & Bodvarsson, 2005). This finding suggests that the magnitude of tip income is sufficient to allow employers to apply tip credits where available.

As of January 1, 2019, the maximum allowable tip credit is $5.13 per hour and when applied against the federal minimum wage of $7.25 per hour, the lowest possible minimum server wage is equal to $2.13 per hour. Seventeen US states currently have a minimum server wage of $2.13 per hour, a rate that has prevailed since 1991 (Allegretto & Nadler, 2015; Jones, 2016; US Department of Labor, 2019b). Approximately two-thirds of Americans workers who earned a wage at or below the federal minimum wage in 2017 were employed in food serving and preparation positions (Bureau of Labor Statistics, 2018). In jurisdictions where a tip credit

does not exist, the minimum server wage is equal to either the federal minimum wage of $7.25 per hour or a superseding higher regional minimum wage. As of January 1, 2019, the highest minimum wage in the nation is $16.00 per hour in Seattle, Washington (City of Seattle, 2019; Working Washington, 2019). In summary, the continuum of minimum server wage in the United States spans extensively from $2.13 per hour to $16.00 per hour.

Minimum Server Wage and Voluntary Tipping

Despite compensating servers at the lowest possible legal wage, restaurants utilizing a voluntary tipping policy are able to attract and recruit servers capable of earning high total compensation (Azar, 2012; McAdams & von Massow, 2017; Namasivayam & Upneja, 2007; Ogbonna & Harries, 2002) as guests predominantly adhere to the social norm of tipping (Lynn & Starbuck, 2015; Lynn, 2017a). For servers employed at restaurants operating with a voluntary tipping policy, a majority 58% of total income is derived from tips received from guests, while the remaining 42% minority is composed of direct wages received from restaurants (Anderson & Bodvarsson, 2005; Azar, 2003a, 2005a; Miller, 2010; Wessels, 1997). In addition to financially benefiting servers, voluntary tipping has been found to increase social welfare; the total utility of all agents in an economic market (Azar, 2005a). Utility, a conceptual metric, represents an agent's preferences for benefit, gain, and satisfaction when faced with scarcity (Broome, 1991; Kreps, 1990; Varian, 1978). Within the economic market of a restaurant, social welfare encompasses guest utility, server utility, and restaurant profit. Tipping increases employee utility by contributing to total server income, while increasing restaurant profit as the phenomenon allows restaurants to attract and hire servers who are willing to accept the lowest legal hourly wage as direct compensation, thereby reducing operating costs (Ogbonna & Harris,

2002). Lower operating costs transpire to lower menu prices resulting in higher guest utility as this agent incurs lower nominal menu prices.

Past research suggests that permitting restaurants to legally remunerate servers at a lower wage promotes market efficiency and adds economic benefits by increasing demand for servers, which successively creates new jobs within a server employment market (Aaronson, French, & MacDonald, 2008; Wessels, 1993). As restaurants customarily compensate servers at the lowest possible legal wage, increasing the minimum server wage will unavoidably lead to adverse financial implications for the restaurant industry. Despite altruistic intentions, research has found evidence that under certain market structures, such as a local monopoly, increasing the minimum wage for tipped restaurant employees may result in net detrimental effects for various stakeholders (Azar, 2012; Shy, 2015). To maintain a going concern, many restaurants operate contingent on the ability to remunerate tipped servers at a lower minimum server wage (Azar, 2012). Consequently, significant increases to the binding minimum server wage will require restaurants dependent on employing staff at the lowest legal wage to re-evaluate firm strategy in order to maintain operations as a going concern.

Minimum Server Wage and Tipping Policy

Azar (2012) investigated the effect of the minimum server wage on restaurant firm strategy and developed the following equations to illustrate differences in the derivation of restaurant profitability and server utility under different tipping policies:

$$\prod_t = P(e) - \mathrm{w}_t$$

$$\prod_s = P(e) - \mathrm{w}_s - s$$

$$\mathrm{U}_t = T(e) + \mathrm{w}_t - C(e)$$

$$\mathrm{U}_s = \mathrm{w}_s - C(e)$$

Where,

$\prod_t$ = restaurant profit under a voluntary tipping policy

$\prod_s$ = restaurant profit under a compulsory tipping policy

P = customer willingness to pay the restaurant for the meal

w_t = server wage under a voluntary tipping policy

w_s = server wage under a voluntary tipping policy

s = compulsory tip

U_t = server utility under a voluntary tipping policy

U_s = server utility under a compulsory tipping policy

T = amount of voluntary tip

C = cost of server effort

e = server effort

In these equations, customer willingness to pay (P), amount of voluntary tip (T), and cost of server effort (C) are all functions of server effort (e). Expressing the amount of voluntary tip as a function of server effort implies that service quality has a direct effect on tipping rate.

As these equations examine tipping policy and the minimum server wage strictly from an economic perspective, it is assumed that guest utility remains constant between voluntary tipping and compulsory tipping as there is no opportunity for guests to realize a consumer surplus from either tipping policy. As a result, these equations delineate social welfare as the sum of restaurant profit and server utility, omitting guest utility.

Using these equations and assuming that restaurants desire to maximize profitability, Azar (2012) posited that an equilibrium minimum server wage exists that determines whether a restaurant should implement a voluntary tipping policy or a compulsory tipping policy.

Explicating a relationship between the minimum server wage and tipping policy, Azar (2012) suggests that when the minimum server wage is below the equilibrium minimum server wage, restaurants should elect a voluntary tipping policy. Conversely, when the minimum wage exceeds the equilibrium minimum server wage, a compulsory tipping policy should be adopted. Principally, these equations suggest that a higher minimum server wage can result in net negative economic effects. Such outcomes occur when the minimum server wage exceeds the equilibrium minimum server wage resulting in lower server income, restaurant profitability, and subsequently social welfare.

Across the United States, the minimum wage is a persistent subject of discussion among law makers, academicians, and the general public (Anderson & Bodvarsson, 2005; Azar, 2004a, 2012; Baker, 2018; Ingraham, 2018; Leins, 2018). Within these deliberations, the issues of tip credits and server tips with respect to the minimum wage are particularly contentious (DiPietro, 2001; Feintzeig, 2018; Gould & Cooper, 2018; Picchi, 2014; Thebault, 2018). Proponents advocating a higher minimum server wage and the elimination of tip credits are on one side of the debate, while opponents support a lower minimum server wage and the preservation of tip credits. Interestingly, restaurants, guests, and servers are found on both sides of the controversy. Restaurants advocating to preserve tip credits are concerned that a higher minimum server wage will necessitate increased menu prices to mitigate against decreased profits (Lemos, 2004), while servers on this side of the debate are concerned that a higher minimum server wage will lead to lower tip income (Feintzeig, 2018; Picchi, 2014; Thebault, 2018). Azar's (2012) economic equations provide support from a theoretical economic perspective for these concerns; contingent that the minimum server wage exceeds Azar's (2012) hypothesized equilibrium minimum server wage.

Minimum Server Wage and Restaurant Pricing

Under a voluntary tipping policy, guests are effectively accepting partial responsibility for server compensation, allowing restaurants to remunerate servers at the minimum server wage (Lynn & Withiam, 2008). Tip credits, where available, can be equated to a guest subsidy of a restaurant's wage expense (Allegretto & Nadler, 2015). As guests are subsidizing labor expenses through voluntary tipping, restaurants are able to charge lower nominal menu prices. Increases to the minimum server wage will compel restaurants to re-examine menu prices to offset increased labor costs.

The degree to which restaurants increase menu prices in response to cost increases is known as pass-through (Fougère, Gautier, & Le Bihan, 2010). Restaurant pricing studies have produced mixed results regarding the pass-through of minimum server wage increases to menu prices. Overall, researchers agree that there is a positive correlation between the minimum server wage and restaurant pricing. However, the literature is conflicted regarding the effect size of this relationship, with some studies finding significant effects (Aaronson et al., 2008; Allegretto & Reich, 2018; Basker & Khan, 2016; Fougère et al., 2010; MacDonald & Aaronson, 2006), while other investigations finding small and non-significant effects (Dube, Naidu, & Reich, 2007; Lemos, 2004). A review of over twenty minimum wage and restaurant pricing studies determined that restaurant pricing is generally sticky, as most studies found that a 10% increase in the minimum wage resulted in small effects as restaurant food prices increased by less than 4%, and overall restaurant prices increased by less than 0.4% (Lemos, 2004). Fougère et al. (2010) found a significant positive effect of the minimum wage on price, but more importantly found that this effect is protracted as a change to the minimum wage requires over a year to influence menu prices. Pricing literature also indicates that the effect of the minimum

wage on menu prices differs across restaurant types as fast food restaurants tend to report a higher pass-through rate compared to full-service restaurants (Basker & Khan, 2016; MacDonald & Aaronson, 2006). Basker and Khan (2016) attributed this result to high elasticity of fast food products.

MacDonald and Aaronson (2006) analyzed how the restaurant industry responded to the 1996-1997 federal minimum wage increase and found that prices are sticky, as restaurants generally did not increase prices uniformly across all menu items. This study investigated the effect of a relatively smaller minimum wage increase, as the federal minimum wage increased from $4.25 per hour to $4.75 per hour on October 1, 1996 and increased again to $5.15 on September 1, 1997 (Berstein & Schmitt, 1998). The minimum server wage changes facing the contemporary restaurant industry involve relatively larger increases, such as the increase from $10.50 per hour to $15.00 per hour over a three-year period in New York (New York State, 2019). These comparatively larger increases to the minimum server wage may have larger effects on the pass-through rate of the minimum server wage to menu prices.

The extent that restaurants can increase nominal menu prices is bounded by reasonable limits and once that limit is reached, restaurants will need to seek other methods to grow revenues for the purpose of offsetting higher labor costs. Reframing the guest labor subsidy, embedded in a voluntary tipping policy, into a revenue stream is one possible alternative. As previously described, Azar (2012) developed a set of economic equations that posited an equilibrium minimum server wage exists that determines whether a restaurant should elect a voluntary tipping policy or a compulsory tipping policy. A compulsory tipping policy would facilitate a higher pass-through rate by adding a supplemental explicit nominal charge to the bill. There are documented examples of restaurants operating in business environments with large

minimum server wage increases that have transitioned from a voluntary tipping policy to a compulsory tipping policy, citing a high minimum server wage as an instrumental reason for the change in firm strategy (Dunn, 2018; Lynn, 2017b; O'Neil, 2015; Walker, 2018).

Tipping literature supports server concerns of potential tip income reduction arising from the elimination of tip credits, as low direct wages has been identified as a motivation for guests to voluntarily tip (Azar, 2005b, 2010; Bodvarsson & Gibson, 1999). However, the minimum server wage has never been directly tested as a predictor variable of tipping rate. Furthermore, previous tipping research has not explored the relationship between the minimum server wage rate and tipping policy from a guest's perspective. This dissertation will address these gaps in the literature.

Theoretical Background

A review of literature comprising the theoretical foundation of this dissertation is presented the following section.

Neo-classical Economics

The term neo-classical economics has been used to describe and classify mainstream economics since it was derived in 1900 by Thorstein Veblen (Colander, 2000). Over the past century, influential economists have contributed, augmented, and enhanced neo-classical economics with new assumptions, findings, and theory (Colander, 2000). Two fundamental tenets of neo-classical economics are the assumptions of self-interest and rationality. Self-interest requires that economic agents strive to maximize value in a method motivated primarily by self-interest (Hamilton, 1919) when engaging in an economic transaction. Rationality requires that all agents behave rationally when participating in an economic market (Archer, 2013).

Elements of tipping have been explained by neo-classical economic concepts. However, due to frequent violations of the fundamental assumptions of rationality and self-interest, these concepts alone are unable to definitively explain the phenomenon of voluntary tipping (Bodvarsson & Gibson, 1997). Examples of guests, as economic agents, relinquishing self-interest include guests who voluntarily tip after a meal despite not having any intention to return to a restaurant, guests who tip above the conventional tipping rate, and guests who tip notwithstanding a poor overall dining experience. As the assumption of self-interest limits the power of neo-classical economics, other theories, such as dynamic game theory, have emerged to address economic phenomena. Applying dynamic game theory to restaurant tipping requires identifying a relationship between services received and voluntary tipping (Bodvarsson & Gibson, 1997). Research has investigated the effect of service received on voluntary tipping through variables such as food quality, service quality, service quantity, and equitable server-guest relationships (Bodvarsson & Gibson, 1994; Lynn & Grassman, 1990; Lynn & Lynn, 2004). However, even with the support of dynamic game theory, neo-classical economics was found to only scarcely predict voluntary tipping rate, and does not provide rationale for the motivation behind voluntary tipping (Bodvarsson & Gibson, 1994, 1997). Determining the underlying motivation for voluntary tipping requires examining theories outside the realm of mainstream economics.

Behavioral Economics

Researchers have consequently elucidated the practice of voluntary tipping by supplementing broad neo-classical theory with focused concepts from behavioral economics, such as social norms and social welfare (Azar, 2003, 2005a). Behavioral economics is the amalgamation of economics and psychology focused on examining the effects of human

impediments and limitations as economic agents in an economic market setting (Mullainathan & Thaler, 2000). The following three inherent human traits have been identified by behavioral economists to incite agent deviation from standard economic models: (1) bounded rationality, (2) bounded self-interest, and (3) bounded willpower (Mullainathan & Thaler, 2000).

Bounded rationality refers to the limitations of human cognitive abilities to sensibly problem solve resulting in decisions that violate rationality. Common reasons for individuals to execute irrational actions include over-confidence, under-confidence, and biases arising from prior experiences (Mullainathan & Thaler, 2000; Tversky & Kahneman, 1974). Consider the scenario of a guest that endures a poor overall dining experience at a restaurant characterized by slow service, substandard food quality, and negative customer service interactions. This was the guest's first visit to the restaurant and the experience was so distasteful that s/he does not intend to revisit the establishment. However, since this restaurant was highly recommended by a close friend, who is well acquainted with the restaurant staff, the guest nevertheless elects to leave a gracious tip for the server. This scenario illustrates how behavioral motivations, such as under-confidence and biases from past experiences, preclude an agent's ability to act rationally. As the guest is accustomed to leaving a tip after dining at a restaurant, s/he has allowed past experiences to bias the rational decision of not leaving a tip, an action warranted by the various service failures experienced throughout the meal. Additionally, this hypothetical guest is potentially exhibiting the trait of under-confidence as s/he may not feel comfortable expressing dissatisfaction to the server by not tipping in fear that the server may expressively single him/her out in front of other guests for not tipping or inform the guest's friend that s/he neglected to tip.

Bounded self-interest encapsulates the tendency of individuals, as economic agents, to regularly forego self-interest for the benefit of others (Fehr & Gächter, 2000). Although neo-

classical economic theory acknowledges the existence of human altruism, the theory accentuates self-interest as an agent's primary motive. However, individuals routinely execute economic based decisions in a selfless manner, such as donating time and money toward charitable causes (Mullainathan & Thaler, 2000).

Bounded willpower reflects individuals' inability to execute decisions that maximize long term interests. This property summarizes a pervasive human characteristic that despite self-awareness, many people have difficulty executing short-term self-control in order to sustain long-term benefits (Mullainathan & Thaler, 2000). For example, consider physically inactive individuals that enroll in recurring monthly gym memberships only to visit the gym a limited number of times upon initial enrollment, but deliberately continue to pay periodic membership dues in hopes that maintaining the gym membership will motivate them to exercise. Such individuals have bounded willpower as they are aware that they need to execute one of two actions, either frequent the gym to exercise for long-term health benefits or relinquish the gym membership to stop paying recurring costs for a product they are not utilizing, but fail to perform either action. These three key properties have led to the development of various behavioral economic theories, such as social norms theory and prospect theory, which have successfully explicated occurrences of inefficient markets and market failures (Arrow, 1971; Elster, 1989; Kahneman & Tversky, 1979; Thaler, 1980; Tversky & Kahneman, 1991).

Social Norms Theory

As the underlying foundation for social norms theory, social norms are emotional and behavioral predispositions of individuals, as economic agents, that contribute to both the subfield of behavioral economics, and the greater economics discipline (Elster, 1989). Social norms theory explicates human behavior in an economic setting and is a direct contrast to traditional

neo-classical economics founded on rational action and self-interest. Rational actions are concerned with outcomes and are motivated by specific conditional future results. Contrariwise, social norms are stimulated by beliefs that are either fully unconditional, or conditional without a desired future goal (Elster, 1989). For a norm to be social and sustainable, the belief must be shared by other people and the violation of the belief must be penalized through sanctions, often in the form of embarrassment, anxiety, guilt, or shame (Azar, 2005a; Elster, 1989). Particularly effective social norms are internalized, leading to adherence even in situations where a violation would not be observed or subjected to sanctions by an external party (Elster, 1989). Psychologists assert that social norms can activate strong emotional responses and that conformity to gain acceptance by others is the primary incentive for individuals to adhere to these accepted rules of society (Aronson, Wilson & Akert, 1999, p. 294; Elster, 1989). As a result, it is common for a member of society to adhere and conform to a social norm at the expense of violating either self-interest or rationality.

One of the seminal applications of social norms theory in applied research was conducted by Perkins and Berkowitz (1986) who utilized social norms in a study that investigated the influence of social norms on alcohol consumption by undergraduate students. Shortly after the publication of this applied study, Elster (1989) wrote a formative paper summarizing academic thought on social norms and economic theory prevailing at that period. In addition to explicitly defining social norms, Elster (1989) contrasted social norms with related phenomena such as moral norms, legal norms, and private norms. Moral norms are consequentialist, adherence to legal norms are motivated by self-interest to avoid prosecution, and private norms are self-imposed restrictions to overcome willpower deficiencies. Other scholars have reaffirmed the distinct differences among these related norms including Bicchieri (2006) who asserted that

"what needs to be stressed here is that what makes something a social or a moral norm is our attitude toward it.'' (2006, p. 21) and that "social norms by and large apply to situations in which there is conflict between selfish and pro-social incentives'' (2006, p. 34). Although Elster argues for the applicability of social norms theory over traditional economic theory under certain circumstances, he acknowledges that there are situations where economic agents succumb to influences from both rationality and social norms. Elster summarizes this argument by stating that there are times where "rationality acts as a constraint on social norms" (1989, p. 101) and "conversely, social norm can act as a constraint on rationality" (1989, p. 101).

Since Elster's (1989) seminal paper, social norms theory has served as the theoretical underpinning for research in an array of fields including business ethics, accounting, economics, and finance (Blay, Gooden, Mellon, & Stevens, 2018) and has been particularly utilized in tipping research (Azar, 2004b, 2005a, 2007b; Bodvarsson & Gibson, 1997; Lynn, 2006a; Lynn & Graves, 1996; Whaley, Douglas, & O'Neil, 2014). The norm of tipping is a belief shared by many people in society that has been sustained for generations dating as far back as the 16th century (Azar, 2004a). One of the primary motivations for a guest to voluntarily tip at a restaurant is the propensity for the general dining population to leave a tip after each meal (Azar, 2005a). For some guests, this is the exclusive motive for leaving a voluntary tip, thereby characterizing voluntary tipping behavior as unconditional on services rendered. There are other types of guests, such as travelers, that voluntarily tip conditional on services received but without regard for future benefit as they do not have any revisit intentions. These examples illustrate the validity of designating tipping as a social norm, rather than a moral, legal, or private norm. Principally, the restaurant tipping transaction is either unconditional or conditional without a desired future goal. To further support the assertion of tipping as a social norm, tipping

researchers have found evidence that complying with this behavior can result in psychological utility, while violating this practice can result in psychological disutility (Azar, 2003, 2004b, 2005a). Psychological utility from tipping can take the form of positive emotions generated from impressing others, positive sentiments experienced from responding to empathy for a hard-working server who earns a low wage, and enhancements to self-image through actions of generosity and kindness (Azar, 2005a).

Contemporaneous to psychology utility, psychological disutility, stemming from internal or external sources (Azar, 2004b), can occur from not tipping through visceral responses such as guilt and embarrassment (Azar, 2003; Lynn et al., 1993). As tipping is not an anonymous activity, external sources of disutility exist and include other market agents capable of identifying a guest that neglects to tip, such as others in the guest's party and restaurant servers. Pressure from external agents surfaces most often in the form of social pressure (Azar, 2007a). Some guests will voluntarily tip notwithstanding experiencing poor service quality, albeit in smaller amounts (Lynn, 2009), to seek social approval (Crespi, 1947; Lynn, 2001; Whaley et al., 2014). Psychological disutility originating from internal sources appear in the cultivation of negative emotions such as guilt, embarrassment, and unfairness. Irrespective of source, guests who experience psychological disutility from failing to tip may attempt to mitigate negative sentiments through self-justification that self-interest supersedes social norms.

In Azar's (2005a) seminal paper on tipping and social welfare, he presented a theoretical economic model that incorporated social norms and emotional reactions as sources of agent utility and found that the social norm of tipping increases social welfare, the total utility of all agents within an economic market. Three agents (guest, restaurant, and server) interact in two separate transactions within the economic market of restaurant dining. The first transaction

involves guest and restaurant, while the second transaction involves guest and server. To determine social welfare, the utilities of all three agents are aggregated. Restaurant utility is the difference between the cash inflows received from guests and the cost to render all products and services. Server utility is equal to total income received through gainful employment, specifically the sum of direct wages received from the restaurant and tips received from guests. Guest utility is equal to the value of the dining experience, composed of both tangible menu items and intangible services, less the total cost to dine. From a standard economics perspective, each agent, motivated primarily by self-interest, will strive to exhaust his/her own utility and subsequently maximize social welfare within the market.

Azar (2005a) asserts that social welfare is increased by expanding the standard economic utility calculation of the guest to include both psychological utility and psychological disutility derived from tipping. Combining social norms, the economic transaction of tipping, and agent utility, social welfare of a restaurant economic market can be summarized as follows: motivated by the social norm of tipping, a guest that tips will subsequently increase his/her utility through positive emotions generated from this act of generosity resulting in amplified social welfare.

Equity Theory

Researchers extensively utilize equity theory, a general theory of social behavior (Walster, Berscheid, & Walster, 1973), to elucidate guest adherence to the social norm of restaurant tipping (Koku & Savas, 2016; Lynn & Grassman, 1990; Lynn & Graves, 1996; Lynn & Sturman, 2010; Synder, 1976). Focusing on outcomes, equity theory posits that people tend to treat others equitably, even at a cost to themselves. Equity is achieved, and an outcome is judged as fair, when an individual's input to output ratio is comparatively equal to the input to output

ratio of others (Adams, 1965; van den Bos, Lind, Vermunt, & Wilke, 1997; Walster et al., 1973). An equitable relationship can be expressed in the following formula (Adams, 1965):

$$\frac{O_A}{I_A} = \frac{O_B}{I_B}$$

Where O_A and O_B represent the outcomes of person A and person B respectively, and I_A and I_B represent the inputs of person A and person B respectively. Equity theory is closely related to norms of fairness and norms of reciprocity as all three of these concepts suggest that in a relationship, people will increase inputs as outputs increase (Lynn & Sturman, 2010; Walster et al., 1973). Norms of fairness are based on an individual's internal sense of fairness (Conlin, Lynn, & O'Donoghue, 2003), while norms of reciprocity obligate a person to return favors received from others (Elster, 1989; Gouldner, 1960).

An early empirical study of tipping in North America utilized the diffusion of responsibility, a psychological theory, as its theoretical underpinning to explicate a statistically significant negative relationship between tipping rate and party size (Freeman, Walker, Borden, & Latané, 1975). Synder (1976) promptly responded with a small follow up study to argue that rather than using the diffusion of responsibility, the statistically significant results in Freeman et al.'s (1975) experiment are better explained by equity theory. Since Synder's (1976) introduction of equity theory into restaurant tipping literature, this theoretical framework has been repeatedly used in voluntary tipping studies. Lynn and Grassman (1990) used this framework to test hypotheses connecting tipping rate to a multitude of variables, including service quality, bill size, patronage frequency, group size, alcohol consumption, number of courses, and food quality, to conclude that equitable relationships between servers and guests was a significant motivator for tipping. Lynn and Graves (1996) identified that the small sample size in Lynn and Grassman's (1990) investigation is a critical limitation and sought to replicate

the study. Despite reporting weak significant relationships, the replication study successfully reproduced results, thereby contributing to the literature by increasing the generalizability of the original Lynn and Grassman (1990) study. Other empirical studies that evaluated the applicability of equity theory to restaurant tipping include Lynn's (2001) meta-analysis, Lynn and Sturman's (2010) within-subjects experiment, and McAdams and von Massow's (2017) mixed-methods investigation.

Responding empathetically to perceived violations of fairness, low server wage has been identified as a motivator for guests to voluntarily tip servers as a means to increase server compensation (Azar, 2004b; Bodvarsson & Gibson, 1999; Crespi, 1947; Lynn, 2006a; Lynn & Graves, 1996). Tipping, as an act of generosity and kindness, increases guest psychological utility through improvements to self-image and positive sentiments realized by responding to empathy for poorly compensated servers (Azar, 2005a). Researchers have previously investigated variations of fairness norms as predictors of tipping rate (Conlin et al., 2003; Lynn, 2008; Lynn & Graves, 1996). Designating tipping as an input and psychological utility as an output, a hypothesized relationship between low server wage and tipping rate is supported by equity theory as people routinely incur costs to enforce norms of fairness (Bosse & Phillips, 2016; Lynn & Graves, 1996).

One of the earliest known studies of tipping employing a scientific approach was conducted by Crespi (1947) who was astounded that social psychologists at the time had not begun researching the tipping phenomenon in the United States. The underlying premise for Crespi's (1947) study was conflicting perspectives of the American public regarding the role of tipping in society. The July 15, 1946 Life magazine editorial of the week determined that tipping was loathed nationally and should be abolished, while an April 12, 1947 Gallup poll found

support for tipping as 49% of Americans nationally, 55% of Americans in urban areas, and 65% of Philadelphians believed in the practice (Crespi, 1947). Crespi asserted that the conflicting attitudes and perspectives of tipping were due to a lack of scientific research resulting in a need to refer to unreliable "unsystematic personal observation" (Crespi, 1947, p. 425). Identifying imprecise wording used in the unsystematic surveys, Crespi posited that participants confounded tipping with fair wages, resulting in conflicting conclusions regarding attitudes toward the tipping phenomenon. To address this issue, Crespi included the following question in the survey used for his empirical study, "If service workers were given fair wages for their work, do you think that tipping should be eliminated?" A majority 69.7% of respondents answered yes to this question and combined with the other study results, Crespi contended that Americans tipped primarily to avoid social disapproval, tipping should be eliminated, and that service workers should be paid a fair wage directly from their employers. Subsequent to this seminal study, research in tipping remained largely sparse over the next thirty years before becoming progressively more popular. However, seven decades after Crespi's seminal study, a gap in the literature regarding the relationship between direct wage income and tip income remains unfilled. As economic agents will enforce fairness to maintain equitable relationships when possible, (Azar, 2005b; Bosse & Phillips, 2016; Lynn & Graves, 1996; Lynn & Sturman, 2010), it is expected that an inverse relationship exists between the minimum server wage and tipping rate.

H_1: Tipping rate is higher when the minimum server wage is low versus when the minimum server wage is high.

Service Quality

A multitude of variables have been investigated as predictors of voluntary tipping behavior, including service quality, bill size, party size, server gender, physical appearance of server, and patronage frequency (Bodvarsson & Gibson, 1999; Gueguen & Jacob, 2011; Jacob, Gueguen, Boulbry, & Ardiccioni, 2010; Lynn, 2003, 2006b; Snyder, 1976). Among these variables, the influence of service quality on voluntary tipping rate has been especially studied (Bodvarsson & Gibson, 1999; Lynn & Grassman, 1990; Whaley et al., 2014) as voluntary tipping provides servers with a tangible incentive to deliver high levels of service quality (Hemenway, 1993; Lynn et al., 1993; Miller, 2010). Service quality is an appraisal conducted by comparing anticipated service with perceptions of actual service received (Grönroos, 1982; Parasuraman, Zeithaml, & Berry, 1985). Perceived service quality is a customer's discernment of the overall superiority of a service encounter (Kivela, Inbakaran, & Reece, 1999; Zeithaml, 1988). Guests use indicators such as server appearance, promptness, friendliness, service accuracy, menu knowledge, and attentiveness to evaluate perceived service quality delivered by servers (Bodvarsson & Gibson, 1994, 1999; Lynn, 2003; Lynn & Grassman, 1990; Lynn & Graves, 1996; Lynn & Simons, 2010; Whaley et al., 2014).

High service quality delivery requires the co-creation of value through the server-guest dyadic relationship (Vargo & Lusch, 2004) and subsequently requires a high degree of customization necessitating servers to treat different guests differently (Mayser & von Wangenheim, 2013). The intangible nature of service quality makes it difficult for restaurant managers to monitor, evaluate, and control the level of service quality delivered by servers (Azar, 2005b; Ogbonna & Harris, 2002; Lynn & McCall, 2000; Seiders & Berry, 1998; Shamir, 1983, 1984; Zeithaml, Berry, & Parasuraman, 1988). Voluntary tipping is a mechanism for

restaurant managers to address challenges associated with regulating service quality, as this tipping policy is an economically efficient method of monitoring and rewarding servers for effort exerted (Azar, 2005b; Bodvarsson & Gibson, 1994; Hemenway, 1993; Jacob & Page, 1980), provided that the reward is based on service quality (Miller, 2010). Economic efficiency is achieved as servers are incentivized with the potential reward of a voluntary tip to deliver high levels of service quality. In addition, voluntary tipping is a mechanism for servers to receive immediate performance feedback. Allowing guests to directly contribute to a server's total income lowers a restaurant's labor cost through reduced direct wages and supervision expenses (Hemenway, 1993; Miller, 2010).

Research has found evidence that service quality positively influences guest intentions, attitudes, and satisfaction (Andaleeb & Conway, 2006; Arora & Singer, 2006; Kivela et al., 1999). However, investigations into the effect of service quality on tipping rate have provided mixed results with some research finding support for significant influence (Bodvarsson, Luksetich, & McDermott, 2003; Lynn & Grassman, 1990; Lynn & Graves, 1996; Mok & Hansen, 1999), while other studies finding insignificant relationships between the two variables (Bodvarsson & Gibson, 1994; Crespi, 1947; Lynn & Latané, 1984; May, 1980). Using fourteen tipping studies, Lynn (2001) conducted a meta-analysis to find a positive influence of service quality on tipping rate. However, the meta-analysis yielded a small effect inferring that, notwithstanding the presence of positive influence, servers may not discern an increase in tips resulting from a larger exertion of effort to improve service quality. Therefore, voluntary tipping may not provide servers with a strong incentive to deliver high levels of service (Lynn, 2001; Lynn & Graves, 1996).

Equity theory can be applied to the restaurant tipping phenomenon by designating voluntary tip as an input and service quality as an output. Considering service quality in isolation, a positive relationship between service quality and tipping rate is expected as people will generally increase inputs as outputs increase (Lynn & Sturman, 2010; Walster et al., 1973).

H_2: Tipping rate is higher when service quality is high versus when service quality is low.

However, when service quality is considered in combination with the minimum server wage, the input to output ratio equation changes as the minimum server wage is designated as an input alongside the voluntary tip. The inclusion of additional inputs may assist in explicating the varied results of statistical significance and effect size of the influence of service quality on tipping rate found in prior research. When the minimum server wage is low, guests may perceive that the input to output ratio of servers is not appropriate and will equalize the ratio by tipping regardless of service quality, resulting in a non-significant effect of service quality on tipping rate. Contrariwise, when the minimum server wage is high, guests may perceive a more appropriate baseline input to output ratio. As a result, service quality will have a significant effect on tipping rate as a higher output from the receipt of higher service quality will warrant a higher input in the form of a higher tipping rate.

H_3: The effect of service quality on tipping rate differs for different minimum server wage conditions. Specifically, when the minimum server wage is low, service quality will not affect tipping rate. When the minimum server wage is high, tipping rate is higher when service quality is high versus when service quality is low.

Perceived Fairness

Fairness is a judgment of the reasonableness and justness of a process or outcome and within a restaurant context, perceived fairness is a guest's appraisal that the total cost and benefits of an overall dining experience are commensurate for all agents; guest, restaurant, and server (Bolton, Warlop, & Alba, 2003; Lynn & Wang, 2013). Studies have found that perceived fairness can significantly influence customer outcomes, such as satisfaction and loyalty (Lindenmeier & Tscheulin, 2008; Oliver & Swan, 1989; Shoemaker, 2003), and behavioral intentions, such as purchase and repurchase intentions (Choi & Mattila, 2006; Grewal, Monroe, & Krishnan, 1998; Haws & Bearden, 2006; Taylor & Kimes, 2010; Xia, Monroe, & Cox, 2004). Consumers are less likely to patronize firms perceived to conduct business unfairly, with some customers electing to punish unfair firms by deliberately incurring additional costs to themselves, such as travelling further, to patronize a competitor (Kahneman, Knetsch, & Thaler, 1986a, 1986b; Kimes & Wirtz, 2002). Similarly, a customer may decline purchasing a product or service from an unfair firm despite suffering from foregoing the purchase (Rabin, 1998). Perceived fairness is exceptionally relevant in service based transactions, such as restaurant purchases, as a substantial portion of service industry value offerings are intangible, making it difficult for guests to directly appraise the quality of purchases (Gundlach & Murphy 1993; Mayser & von Wagenheim, 2013; Seiders & Berry, 1998).

Since the world's first minimum wage laws were enacted in Australia and New Zealand in the 1890s, economists have debated whether such regulations attain underlying objectives of alleviating poverty through increased employment, income, and productivity (Kaufman, 2009). Using a simple competitive labor market model, early opponents of labor market regulation posited that a minimum wage leads to fewer jobs, higher prices, lower profits, and lower overall

wages (Mincer, 1976; Stigler, 1946). Subsequent research postulated that in focused monopsonistic labor markets, a minimum wage can increase economic efficiency and fairness (Card & Krueger, 1995). When incorporating social cost into a monopsonistic labor market model, economic efficiency and fairness improvements can extend into general competitive labor markets by eliminating social tax on labor and removing hidden social subsidies (Kaufman, 2009). As the restaurant labor market is large, competitive, and growing (Andaleeb & Conway, 2006; Bills, 1999), these more recent economic viewpoints that a minimum wage increases fairness may apply to a restaurant setting.

It is expected that a positive relationship exists between the minimum server wage and perceived fairness of the minimum server wage and that an inverse relationship exists between perceived fairness of the minimum server wage and tipping rate. As a result, when the minimum server wage is low, perceived fairness of minimum server wage will be lower and guests will subsequently equalize the unfair situation through a higher tipping rate. Contrariwise, when the minimum server wage is high, perceived fairness of the minimum server wage will be higher and subsequently, tipping rate will be lower. These relationships suggest that perceived fairness of the minimum server wage mediates the effect of minimum server wage on tipping rate as shown in Figure 1.

H_4: The negative effect of the minimum server wage on tipping rate is mediated by perceived fairness of the minimum server wage. Specifically, the minimum server wage has a positive effect on perceived fairness of the minimum server wage and perceived fairness of the minimum server wage has a negative effect on tipping rate.

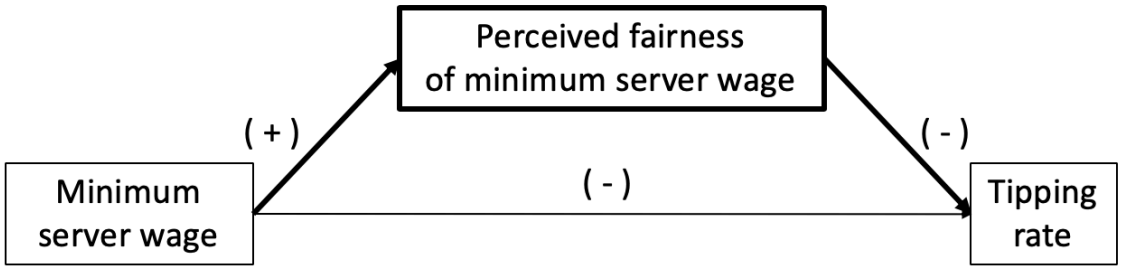

Figure 1. Proposed conceptual mediation model of the indirect effect of the minimum server wage on tipping rate via perceived fairness of the minimum server wage.

As receipt of high service quality equates to high output, guests would need to increase input, in the form of tipping rate, in order to equalize the input to output ratio as posited by equity theory. As voluntary tipping is a mechanism for guests to equalize relationships with servers for delivering higher levels of service quality, it is expected that a positive relationship exists between service quality and perceived fairness of voluntary tipping. In addition, it is expected that a positive relationship exists between perceived fairness of voluntary tipping and tipping rate as guests who believe that voluntary tipping is unfair will tip less, while those that believe that voluntary tipping is a fair mechanism to increase server income will tip more. Combining these two expected relationships, it is postulated that perceived fairness of voluntary tipping mediates the effect of service quality on tipping rate as shown in Figure 2.

H_5: The positive effect of service quality on tipping rate is mediated by perceived fairness of voluntary tipping. Specifically, service quality has a positive effect on perceived fairness of voluntary tipping and perceived fairness of voluntary tipping has a positive effect on tipping rate.

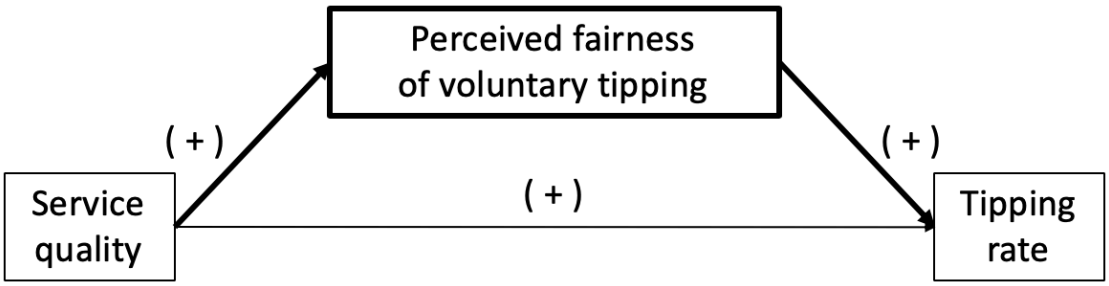

Figure 2. Proposed conceptual mediation model of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

Combining the expected inverse relationship between the minimum server wage and tipping rate in hypothesis 1 with the proposed mediation model in hypothesis 5, it is postulated that the relationship between perceived fairness of voluntary tipping and tipping rate will vary as a function of the minimum server wage resulting in second stage moderated mediation as showed in Figure 3.

H_6: The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

H_{6a}: The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when the minimum server wage is higher versus when the minimum server wage is lower.

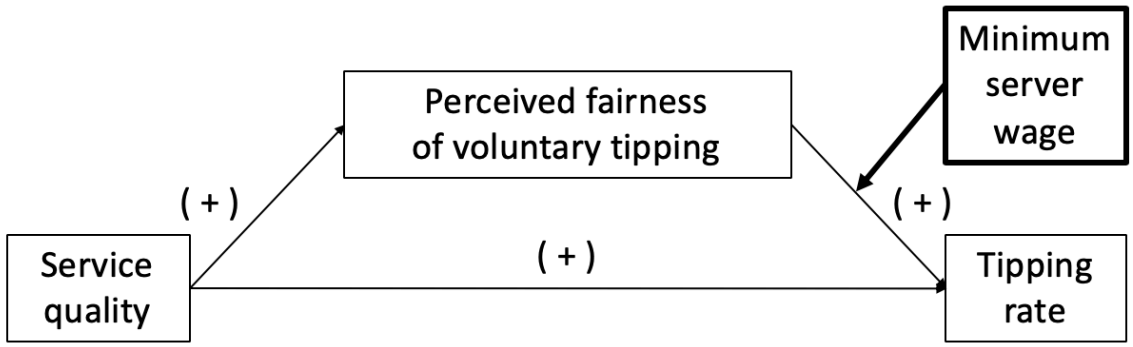

Figure 3. Proposed conceptual second stage moderated mediation model of the moderation of the minimum server wage on the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

Over a 30-year period from the 1980s to the 2000s, an abundance of attitudinal surveys of guest opinions of restaurant tipping have been conducted in the United States (Lynn, 2017b; Lynn & Withiam, 2008). The majority of these surveys indicate that guests prefer that servers earn a guaranteed wage rather than receive tip income while also preferring voluntary tipping to automatic service charge (Lynn & Withiam, 2008). Lynn and Withiam (2008) suggested that a preference for servers to earn a guaranteed wage over earning tip income infers that guests prefer service inclusive pricing to voluntary tipping. However, when taking into consideration that the majority of guests also prefer voluntary tipping over automatic service charge, and inconsistent questionnaire wording, it is possible that guests have confounded perceived fairness of server compensation with perceived fairness of tipping policy in these attitudinal consumer surveys. The popularity and prevalence of attitudinal surveys on guest opinions of restaurant tipping have continued past the 2000s and since 2012, the most common platform for conducting such polls have transitioned to online mediums such as Google Consumer Surveys, SurveyMonkey, Trip Advisor, and Zagat (Lynn, 2017b). Lynn (2017b) recognized that incongruent wording and uncertain sampling methodology employed in these online surveys limit the utility of results,

leading him to conduct his own survey of whether restaurant guests like or dislike different tipping policies. Interestingly, Lynn's (2017b) attitudinal survey found that voluntary tipping is most liked, followed by service inclusive pricing, and finally automatic service charge is least liked. However, as Lynn's (2017b) survey was conducted using an unrepresentative sample of the US population, the generalizability of results is limited.

Surprisingly, notwithstanding the abundance of attitudinal surveys on guest preference and favorability of different tipping policies, there is only one published study that investigated perceived fairness of tipping policy. This study discretely compared voluntary tipping to automatic service charge and voluntary tipping to service inclusive pricing, finding that voluntary tipping was perceived to be fairer than either compulsory tipping policy (Lynn & Wang, 2013). Lynn and Wang (2013) speculated that voluntary tipping is perceived to be fairer as it provides guests with voice and control while directly rewarding servers for effort exerted. In addition, Lynn and Wang (2013) suggested that future research should investigate whether empathy increases perceived fairness of compulsory tipping. Considering the incongruent results from guest attitudinal surveys indicating a preference for servers to receive constant income, rather than tip income, and a preference for voluntary tipping (Lynn & Withiam, 2008), it is expected that the minimum server wage influences perceived fairness of a tipping policy. This dissertation will build on Lynn and Wang's (2013) findings on perceived fairness of tipping policy by taking the minimum server wage into consideration. It is expected that when the minimum server wage is low, voluntary tipping, as a form of voluntary pricing, is perceived to be fairer than compulsory tipping as guests are able to supplement a lower minimum server wage with a higher tipping rate. Conversely, when the minimum server wage is high, compulsory

tipping is perceived to be fairer than voluntary tipping as a higher minimum server wage will not need to be supplemented.

H_7: The effect of tipping policy on perceived fairness of tipping policy differs for different minimum server wage conditions. Specifically, when the minimum server wage rate is low, voluntary tipping is perceived to be fairer than compulsory tipping. When the minimum server wage is high, compulsory tipping is to be perceived fairer than voluntary tipping.

Empathy

Tipping research has found that voluntary tipping is perceived to be fairer than both automatic service charge and service inclusive pricing (Lynn & Wang, 2013). As voluntary tipping provides a means for guests to directly reward servers, thereby enforcing equity in server-guest exchanges, Lynn and Wang (2013) suggested that perceived fairness of voluntary tipping may be even greater for guests with higher levels of empathy. Although this explanation is grounded in a prior study, Lynn (2009), Lynn and Wang (2013) recognized that the data presented in their perceived fairness study cannot directly support this conclusion and therefore requires further testing. In the referenced study, Lynn (2009) investigated fourteen self-attributed motives for tipping, and subsequent to a factor analysis, a factor labeled "intrinsic motives" was identified. Intrinsic motives was found to have the most significant influence on tipping rate in a succeeding binominal logistic regression.

It is postulated that a positive relationship exists between service quality and empathy as guests will feel more sympathetic towards servers working harder to deliver higher levels of service quality. In addition, it is anticipated that a positive relationship exists between empathy

and tipping rate. Accordingly, it is expected that empathy mediates the effect of service quality on tipping rate as shown in Figure 4.

H_8: The positive effect of service quality on tipping rate is mediated by empathy. Specifically, service quality has a positive effect on empathy and empathy has a positive effect on tipping rate.

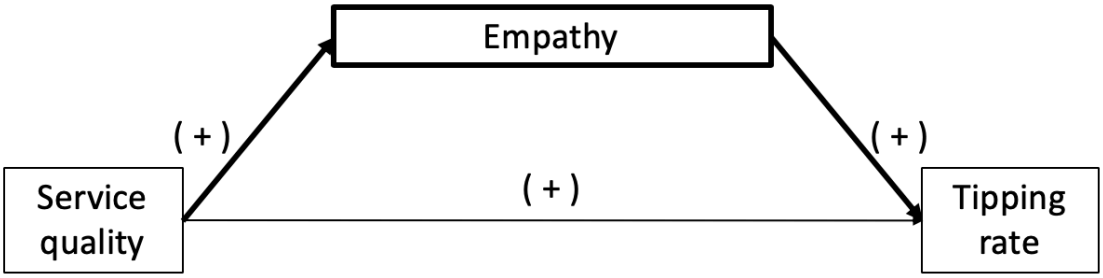

Figure 4. Proposed conceptual mediation model of the indirect effect of service quality on tipping rate via empathy.

Combining the anticipated inverse relationship between the minimum server wage and tipping rate in hypothesis 1 with the proposed mediation model in hypothesis 8, it is expected that the relationship between empathy and tipping rate will vary as a function of the minimum server wage resulting in second stage moderated mediation as shown in Figure 5.

H_9: The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via empathy.

H_{9a}: The indirect effect of service quality on tipping rate via empathy will be stronger when the minimum server wage is lower versus when the minimum server wage is higher.

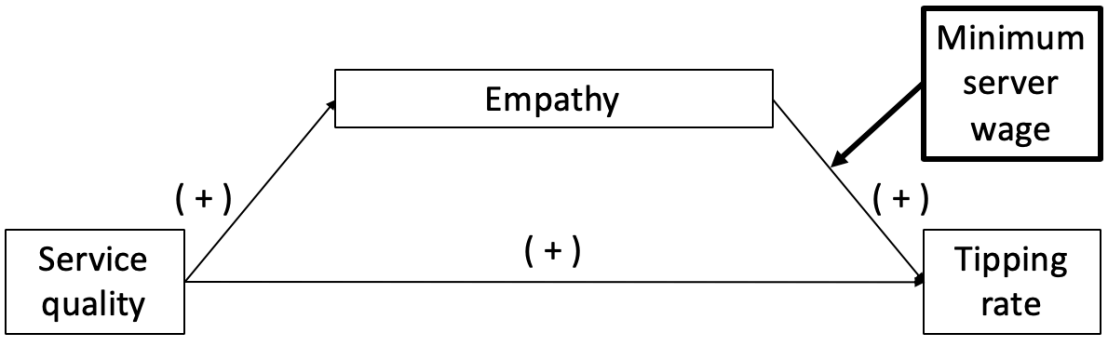

Figure 5. Proposed conceptual second stage moderated mediation model of the moderation of the minimum server wage on the indirect effect of service quality on tipping rate via empathy.

Perceived Value

Defined as the degree of perceived quality relative to price (Fornell, Johnson Anderson, Cha, & Bryant, 1996; Oh, 2000; Qin & Prybutok, 2008; Zeithaml, 1988), perceived value has significant relationships with essential restaurant marketing variables, including customer satisfaction and behavioral intentions (Qin & Prybutok, 2008; Ryu, Han, & Kim, 2008; Ryu, Lee, & Kim, 2012). As a strong determinant of the American Customer Satisfaction Index (ASCI), a market based performance measure (Fornell et at., 1996), guest perceptions of value are important to restaurants. Perceived value is a robust construct facilitating increased comparability of firm performance by controlling for differences in customer income levels and budget constraints (Fornell et al., 1996; Lancaster, 1971).

As previously discussed, nominal restaurant prices are discrete pricing components, such as explicit menu prices and implicit voluntary tips, that aggregate to a restaurant's real price, the total cost to dine (Lynn, 2006a; Lynn & Withiam, 2008). The tipping phenomenon affords restaurants the ability to separate distinct components of value offerings, specifically the tangible food product component and the intangible service delivery component. Information processing research has found that consumer discernment of multi attribute options is influenced by the

evaluability of individual attributes (Hsee, Loewenstein, Blout, & Bazerman, 1999). As nominal prices are assigned to each of these discrete components, restaurants have a choice between a partition pricing strategy and a bundle pricing strategy. Partition pricing is fully exemplified in a voluntary tipping policy as nominal prices for tangible food and drink products manifest as menu item prices, while voluntary tips represent nominal prices for intangible service delivery. Analogously, under an automatic service charge tipping policy, menu item prices represent tangible food and drink products, while automatic service charges represent intangible service delivery. Automatic service charge is a form of transparent bundle pricing as the nominal prices for tangible and intangible value offerings are interlinked but distinguishable. Service inclusive pricing is an opaque form of bundle pricing, as the tangible and intangible restaurant value offerings are amalgamated into a single indistinguishable price (Lynn & Wang, 2013; Lynn & Withiam, 2008; Morwitz, Greenleaf, & Johnson, 1998; Wang & Lynn, 2017).

As a pricing mechanism, tipping can influence various guest perceptions, including perceived expensiveness, perceived quality, and deal perception (Lynn & Wang, 2013; Wang & Lynn, 2017). Lynn and Wang (2013) investigated perceived expensiveness of different tipping policies to find that service inclusive pricing is perceived to be more expensive than voluntary tipping. Wang and Lynn (2017) investigated variations of automatic service charge and service inclusive pricing relative to a base tipping rate of 15%, to find differences in deal perception arising from specific manipulations of these variables. The findings from these studies suggest that tipping policy can affect guest attitudes and perceptions towards restaurant purchases.

Notwithstanding economic equivalence of two outcomes, consumer purchase perceptions can vary significantly contingent on the framing of outcomes against a reference point (Kahneman & Tversky, 1984). When comparing partition and bundle pricing options, a bias

towards an anchor evaluation has been found in consumer assessments (Morwitz et al., 1998; Tversky & Kahneman, 1974; Yadav, 1994). Tversky and Kahneman (1974) describe this phenomenon as adjustment and anchoring, whereby consumer evaluations are conducted sequentially by first anchoring on a base price followed by making upward adjustments for surcharges and supplemental fees. As customers are ordinarily initially presented with a base price followed by additional surcharges, the base price is perceived to be the most important (Morwitz et al., 1998).

In restaurant dining situations, guests are presented with nominal explicit food and drink prices on a menu that are accordingly held as base prices, while tips and taxes are nominal implicit prices held as upward adjustments (Lynn & Wang, 2013; Wang & Lynn, 2017). When anchoring and adjusting, consumers have a tendency to make an insufficient upward adjustment for surcharges (Morwitz et al., 1998). As a result, holding all nominal prices constant, guests may perceive the real price of a restaurant purchase as lower when presented with partition pricing versus when presented with bundle pricing. A difference in perceived price successively leads to a difference in perceived value. Holding the absolute values of nominal prices for both tangible and intangible restaurant value offerings constant, it is anticipated that guest perceptions of value will be higher when presented with partition pricing versus when presented with bundle pricing. Correspondingly, it is expected that perceived value of voluntary tipping will be higher than perceived value of compulsory tipping. In addition, as customer judgments of multi attribute alternatives are affected by degree of evaluability of each alternative (Hsee et al., 1999), it is expected that the level of transparency of a bundle price will influence perceived value. Respectively, it is anticipated that perceived value of automatic service charge will be higher than perceived value of service inclusive pricing.

H_{10}: Perceived value varies for different tipping policies. Specifically, perceived value of voluntary tipping is higher than perceived value of compulsory tipping and perceived value of automatic service charge is higher than perceived value of service inclusive pricing.

Familiarity

Familiarity is a consumer's degree of prior knowledge about a product or service accumulated from previous experiences (Alba & Hutchinson, 1987; Park & Lessig, 1981) and increases after repeatedly experiencing analogous transactions (McGuire & Kimes, 2006). Restaurant pricing research has found that familiarity with pricing techniques, such as revenue management practices, has a strong influence on perceptions of price fairness (Kimes, 2008; McGuire & Kimes, 2006; Taylor & Kimes, 2010; Wirtz & Kimes, 2007). As previously described, voluntary tipping allows restaurants to offer lower nominal menu prices, automatic service charge adds a supplemental nominal price for service, and service inclusive pricing increases nominal menu prices. Subsequently, a chosen tipping policy will have pricing implications and similar to other restaurant pricing considerations, guest perceptions of fairness may be influenced by familiarity with a specific tipping policy. Since the introduction of tipping in the United States at the turn of the 20th century, voluntary tipping has been ubiquitously associated with restaurant dining (Azar, 2004a; Wang & Lynn, 2017). Conversely, automatic service charge and service inclusive pricing are comparatively newer forms of tipping. As a result, guests have may have differing levels of familiarity with each tipping policy. Initial perceptions of unfairness of a novel and unfamiliar practice tend to decline over time as the custom becomes established into community norms and consumers develop familiarity (Kimes, 1994; Kimes & Noone, 2002; McGuire & Kimes, 2006; Wirtz & Kimes, 2007).

It is postulated that familiarity with voluntary tipping moderates the relationship between service quality and perceived fairness of voluntary tipping. It is expected that higher levels of familiarity with voluntary tipping will strengthen the relationship between service quality and perceived fairness of voluntary tipping, while lower voluntary tipping familiarity will weaken the relationship, resulting in first stage moderated mediation as shown in Figure 6.

H_{11}: Voluntary tipping familiarity moderates the first stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

H_{11a}: The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when voluntary tipping familiarity is higher versus when voluntary tipping familiarity is lower.

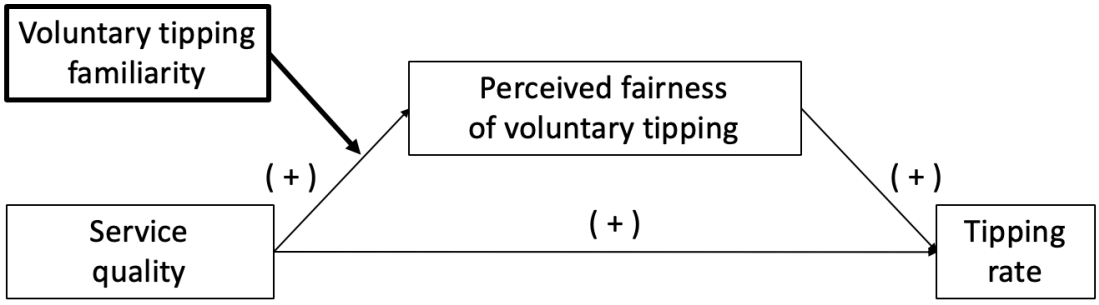

Figure 6. Proposed conceptual first stage moderated mediation model of the moderation of voluntary tipping policy familiarity on the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

Combining hypothesis 6 and hypothesis 11 together results in moderated moderated mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping as showed in Figure 7.

H_{12}: Voluntary tipping familiarity moderates the first stage mediation and the minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

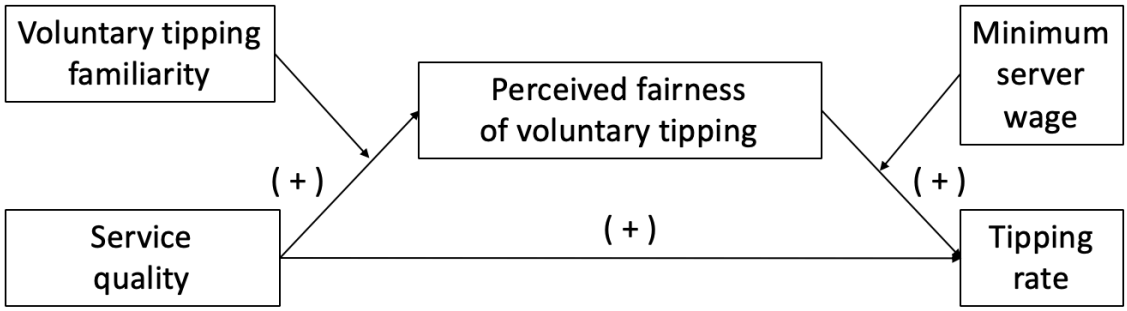

Figure 7. Proposed conceptual moderated moderated mediation model of the first stage moderation of voluntary tipping familiarity and the second stage moderation of the minimum server wage on the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

Research Hypotheses

The research hypotheses of this dissertation are summarized as follows:

H_1: Tipping rate is higher when the minimum server wage is low versus when the minimum server wage is high.

H_2: Tipping rate is higher when service quality is high versus when service quality is low.

H_3: The effect of service quality on tipping rate differs for different minimum server wage conditions. Specifically, when the minimum server wage is low, service quality will not affect tipping rate. When the minimum server wage is high, tipping rate is higher when service quality is high versus when service quality is low.

H_4: The negative effect of the minimum server wage on tipping rate is mediated by perceived fairness of the minimum server wage. Specifically, the minimum server wage has a positive effect on perceived fairness of the minimum server wage and perceived fairness of the minimum server wage has a negative effect on tipping rate.

H_5: The positive effect of service quality on tipping rate is mediated by perceived fairness of voluntary tipping. Specifically, service quality has a positive effect on perceived fairness

of voluntary tipping and perceived fairness of voluntary tipping has a positive effect on tipping rate.

H_6: The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

H_{6a}: The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when the minimum server wage is higher versus when the minimum server wage is lower.

H_7: The effect of tipping policy on perceived fairness of tipping policy differs for different minimum server wage conditions. Specifically, when the minimum server wage rate is low, voluntary tipping is perceived to be fairer than compulsory tipping. When the minimum server wage is high, compulsory tipping is to be perceived fairer than voluntary tipping.

H_8: The positive effect of service quality on tipping rate is mediated by empathy. Specifically, service quality has a positive effect on empathy and empathy has a positive effect on tipping rate.

H_9: The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via empathy.

H_{9a}: The indirect effect of service quality on tipping rate via empathy will be stronger when the minimum server wage is lower versus when the minimum server wage is higher.

H_{10}: Perceived value varies for different tipping policies. Specifically, perceived value of voluntary tipping is higher than perceived value of compulsory tipping and perceived value of automatic service charge is higher than perceived value of service inclusive pricing.

H_{11}: Voluntary tipping familiarity moderates the first stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

H_{11a}: The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when voluntary tipping familiarity is higher versus when voluntary tipping familiarity is lower.

H_{12}: Voluntary tipping familiarity moderates the first stage mediation and the minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.

Summary

This chapter reviewed literature relevant to resolving the research questions comprising this dissertation. The variables of interest, theoretical background, and research hypotheses were presented. Chapter Three presents the design and methodology of this research.

CHAPTER THREE

RESEARCH METHODS

This chapter presents the research methods composed of research design, data collection, and analyses, used to resolve the research questions. Two separate studies utilizing online scenario based experiments were conducted to test the hypotheses and achieve the research objectives. Study One focused on tipping behavior and guest responses under a voluntary tipping policy, while Study Two examined different tipping policies in varying combinations with minimum server wage.

Experimental Design Overview

Experiments are a research method that allow researchers to exert influence over conditions to manipulate variables of interest for the purpose of hypothesis testing (Shadish, Cook, & Campbell, 2002, p. 12; Zikmund, 2003, p. 257). An experiment involves applying different treatments to either different groups of subjects or repeatedly to the same subjects, and subsequently measuring the performance of the treatments. Treatment conditions are purposefully selected and controlled to permit the researcher to attribute observed differences to specific variables, facilitating the inference of causal relationships among variables (Keppel & Wickens, 2004, p. 2).

There are two types of experimental designs, between-subjects design and within-subjects design. In a between-subjects design experiment, each subject receives only one of the treatment conditions. Conversely, each subject receives every treatment condition in a within-subjects design. Between-subjects experiments benefit from parsimonious design, analysis simplicity, minimal statistical assumptions, an absence of nuance variables, and an absence of learning effects (Campbell & Stanley, 1966, p. 13). However, between-subjects experimental

designs are less statistically sensitive. Contrariwise, statistical tests conducted in within-subjects experimental designs are more sensitive as each subject receives every treatment condition resulting in higher comparability among the various groups. However, there are disadvantages associated with within-subjects design, including more complex statistical requisite assumptions and potential exposure to nuance variables; variables that are not relevant to a study but influence experimental outcomes. Both between-subjects and within-subjects experiments can have one or more independent variables, also referred to as factors. Factorial designs are experiments with multiple factors where every level of each factor is combined with the level of every other factor. This defining structure of factorial designs provide researchers with multidimensional information as the influence of each factor can be examined in addition to the combinational effects of independent variables taken together (Keppel & Wickens, 2004, p. 195).

The two studies in this dissertation each incorporated two independent variables into a between-subjects factorial scenario design experiment. As confounding effects and learning effects, commonly found in within-subjects experiments, would be difficult to control after a subject receives the first treatment, a between-subjects design was selected for both studies. For example, suppose after answering questions regarding perceived fairness of a voluntary tipping policy, a participant is then asked to answer the same questions regarding perceived fairness of a compulsory tipping policy. In this situation, a participant's perception of fairness of a compulsory tipping policy could be influenced by how s/he answered the preceding question on perceived fairness of a voluntary tipping policy. Known as order of presentation bias, this potential bias arises from the accumulation of experience gained through the course of responding to multiple treatments (Zikmund, 2003, p. 267) and results in experimental error. To mitigate against low statistical sensitivity, a disadvantage of between-subjects experimental

design, a larger sample size was collected to ensure a sufficient effect size (Keppel & Wickens, 2004, p. 11).

Scenario design is an effective measure allowing researchers to control variables in different scenarios (Bitner, 1990). Consequently, similar restaurant scenarios with different minimum server wages and different tipping policies, along with short surveys, were distributed to qualified participants through Qualtrics, an online survey platform. Participants in both studies were provided with preliminary background information describing their assigned treatment condition before moving through a scenario requiring them to imagine patronizing a full-service restaurant for dinner. Manipulation checks were conducted on pilot studies for both experiments to test for measurement accuracy and experimental validity.

Study One

Study One focused exclusively on voluntary tipping to investigate the effect of the minimum server wage, in conjunction with established antecedent variables, on tipping rate. Specifically, service quality, perceived fairness of the minimum server wage, perceived fairness of voluntary tipping, empathy, and voluntary tipping familiarity were included as variables of interest. After progressing through the experiment stimuli and responding to tipping behavior questions, participants were presented with a set of end-of-experiment questions pertaining to empathy, minimum server wage preferences, tipping policy preferences, demographics, restaurant visitation frequency, and restaurant work experience. These end-of-experiment questions assisted in identifying boundary conditions, presenting alternative explanations for observed effects, and describing the sample.

Participants

Participants for Study One were recruited online through Qualtrics, a market research firm providing online panel data collection and management services (Qualtrics, 2019). Online data sampling provides various advantages, including ease of facilitating random assignment of subjects into experimental treatments (Bujisic, Hutchinson, & Parsa, 2014) and relatively lower participant drop-out resulting in more complete data (Dolnicar, Laesser, & Matus, 2009). Subjects comprising of 630 US residents, aged 18 and over, and who dined in a restaurant at least once in the past month were recruited and randomly distributed among the four treatment groups. The sample size of 630 ensured a minimum of 157 subjects per cell of the experimental design and is more than sufficient to detect a medium sized effect with a minimum power of .80 at the .05 significance level (Cohen, 1992). This study obtained approval from University of Nevada Las Vegas' Institutional Review Board (IRB). The IRB approval is provided in Appendix A and the participant informed consent form is provided in Appendix B.

Design

Study One examined the effect of the minimum server wage, service quality, and the interaction of the minimum server wage and service quality on tipping rate using a 2 (minimum server wage: $2.13 per hour, $16.00 per hour) x 2 (service quality: low, high) between-subjects factorial experimental design. The lowest current minimum server wage of $2.13 per hour and the highest current minimum server wage of $16.00 per hour in the United States were selected as the two minimum server wage conditions. A pilot study using a separate sample of subjects was conducted to facilitate manipulation checks to test for measurement accuracy and experimental validity. The experimental design is displayed in Table 1.

An email with a link to the online survey was sent via Qualtrics to its panels. Participants were first presented with an online consent form and three screening questions inquiring about their country of residency, age, and dining experience in the prior month. Qualified participants advanced to the survey and the restaurant scenario experiment.

Table 1

Study One Experimental Design

Minimum Server Wage	**Service Quality**	
	Low	High
$2.13 per hour	157	157
$16.00 per hour	158	158

Procedure, Stimuli, and Instrument

The complete Study One questionnaire is provided in Appendix C. The survey began by asking participants questions related to their familiarity with voluntary tipping, automatic service charge, and service inclusive pricing using a three item 7-point Likert type scale (Kimes & Wirtz, 2016; Taylor & Kimes, 2010). These questions were intended to prepare participants for the restaurant dining scenario by priming their thoughts with respect to tipping. After the tipping policy familiarity questions, the online experiment commenced with a detailed introduction explicitly stating that servers in the restaurant scenario earned the minimum server rate of either $2.13 per hour or $16.00 per hour, depending on the subject's minimum server wage condition assignment. Under both conditions, participants were asked to imagine visiting a hypothetical full-service restaurant and were presented with a restaurant stimulus consisting of an exterior restaurant photo, an interior restaurant photo (Lynn & Wang, 2013), and the following information: "Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is

$2.13 per hour ($16.00 per hour) in this town. You walk into the restaurant. The hostess sees you walk in and greets you. You tell her that you are dining by yourself. The hostess seats you at a table and gives you a menu." A menu stimulus consisting of drinks, appetizers, and entrées (Lynn & Wang, 2013) was then presented to the participants.

Subjects were then randomly assigned to one of two service quality scenarios (low / high) and provided with a description of the dining experience. The descriptions of the two service quality conditions were based on a past scenario based experiment with two service quality scenarios, positive and negative (Wall & Berry, 2007). Wall and Berry (2007) created the positive and negative scenarios with assistance from a seafood restaurant chain who provided guidelines for the two conditions based on the company's customer-service standards.

The low service quality description is as follows: "Your server sees you sit down but does not immediately greet you. A few minutes after you finish reading the menu, your server greets you and asks for your order. You ask her about the ingredients in the soup of the day and the daily special, but she is unable to answer your questions. You decide not to order the soup or the daily special. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs. After you finish your meal, you wait a while before your server returns. She gives you the bill but does not take away any of the empty dishes."

The high service quality description is as follows: "Your server sees you sit down and immediately greets you. After you finish reading the menu, your server returns and asks for your order. You ask her about the ingredients in the soup of the day and the daily special. She is able to answer all of your questions. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs. The server brings you the iced tea and chicken wings. After you finish the chicken wings, the server brings out the spaghetti & meatballs and takes away the empty

chicken wings plate. The food tastes as you expected. Shortly after, the server returns and asks if you need anything else. You ask for another napkin and she immediately brings you one. After you finish your meal, the server returns with your bill and takes away all the empty dishes."

Following the service quality description, all subjects were presented with a bill stimulus showing a pre-tax subtotal of $21.65, tax of $1.10, and a final total of $22.75. The bill pre-tax total of $21.65 in the scenario was determined by inflating the 2014 full-service restaurant median check size of $20.00 (National Restaurant Association & Deloitte & Touche LLP, 2016) from the December 2014 price level to the March 2019 price level, the most current available index, using the Bureau of Labor Statistics Consumer Price Index (CPI) inflation calculator (Bureau of Labor Statistics, 2019). A sales tax rate of 5.10% was applied to the pre-tax amount to determine sales tax of $1.10 and a final bill total equal to $22.75. The sales tax rate of 5.10% used in the scenario was determined by averaging the 2019 sales tax rates in the 50 United States of America and the District of Columbia (Cammenga, 2019). Along with the bill stimulus, participants were provided with the following description: "You give the server a credit card and she returns with a mobile credit card terminal showing the following: Thank you for dining at Golden Mountain Restaurant. Your bill total is $22.75. Would you like to add a tip?" Similar to contemporary restaurant electronic point of sale terminals, participants were given an option of entering a dollar amount tip, a percentage amount, or not entering a tip at all. After adding an optional tip, perceived fairness of the minimum server wage and perceived fairness of voluntary tipping were assessed using a three item 7-point Likert type scale (Kimes, 1994; Taylor & Kimes, 2010; Wirtz & Kimes, 2007). Subjects were then asked whether their tipping behavior would have deviated if they were dining with others, rather by themselves.

After answering questions directly related to the scenario, participants were presented with manipulation check questions designed to measure experimental accuracy and validity. Following the manipulation check questions, respondent empathy was measured using a five item 7-point Likert type scale (Lynn, 2009). The survey concluded with a set of end-of-experiment questions concerning demographics, restaurant work experience, restaurant dining frequency, attitudes towards the minimum server wage, and attitudes towards tipping policy. Table 2 displays a list of measures used in this study. Reliability of multi-item constructs will be examined and presented in Chapter Four.

Table 2

Study One Measures

Variable	Measurement	Source
Voluntary tipping familiarity	I am familiar with tipping servers in restaurants Tipping servers in restaurants is usual Tipping servers in restaurants is typical	Kimes & Wirtz (2016); Taylor & Kimes (2010)
Automatic service charge familiarity	I am familiar with automatic service charges in restaurants Automatic service charges in restaurants are usual Automatic service charges in restaurants are typical	Kimes & Wirtz (2016); Taylor & Kimes (2010)
Service inclusive pricing familiarity	I am familiar with all-inclusive pricing in restaurants All-inclusive pricing in restaurants is usual All-inclusive in restaurants is typical	Kimes & Wirtz (2016); Taylor & Kimes (2010)
Perceived fairness of the minimum server wage	The think that the $2.13 per hour ($16.00 per hour) minimum server wage is fair The think that the $2.13 per hour ($16.00 per hour) minimum server wage is acceptable The think that the $2.13 per hour ($16.00 per hour) minimum server wage is reasonable	Kimes (1994); Taylor & Kimes (2010); Wirtz & Kimes (2007)
Perceived fairness of voluntary tipping	I think that tipping is fair I think that tipping is acceptable I think that tipping is reasonable	Kimes (1994); Taylor & Kimes (2010); Wirtz & Kimes (2007)
Empathy	I tip to reward good service I tip to help servers make a living I tip in order to feel satisfaction from doing what is right I tip in order to express my generosity I tip in order to support the custom of tipping	Lynn (2009)
Restaurant work experience	I have restaurant work experience I have server work experience	Fisher (2015)
	Manipulation Checks	
Minimum server wage	I think that servers at this restaurant are paid a high hourly wage	
Service quality	How would you rate the level of service?	
Realism	How realistic is this restaurant scenario?	

Pretesting

To ensure proper manipulations of the minimum server wage and service quality conditions, a pretest was conducted using a separate sample of respondents recruited by Qualtrics. A sample of 80 subjects composed of US residents, aged 18 and over, and who had dined in a restaurant at least once in the past month was collected. The participants were equally and randomly assigned to one of four treatments ($2.13 per hour minimum server wage x low service quality; $2.13 per hour minimum server wage x high service quality; $16.00 per hour minimum server wage x low service quality; $16.00 per hour minimum server wage x high service quality). After completing the online scenario experiment, participants were asked to rate their level of agreement with the following statement, "I think that servers at this restaurant are paid a high hourly wage" on a 7-point Likert type scale. Results revealed a significant difference between the $2.13 per hour minimum server wage group (M = 2.60, SD = 1.92) and the $16.00 per hour minimum server wage group (M = 5.15, SD = 1.70); $t(78) = -6.286$, $p < .001$. Subjects were then asked to answer the following question, "How would you rate the service quality at this restaurant?" on a 7-point Likert type scale. There was a significant difference between the low service quality group (M = 4.03, SD = 2.03) and the high service quality group (M = 6.33, SD = 0.89); $t(78) = -6.560$, $p < .001$. These results, taken together, demonstrate that both the minimum server wage and service quality manipulations were effective.

Study Two

Study Two investigated the effect of the minimum server wage and tipping policy taken together on guest perceptions of fairness and value. Specifically, the minimum server wage, tipping policy, perceived fairness of tipping policy, perceived value, and empathy were included as variables of interest. After progressing through the experiment stimuli and responding to

tipping behavior questions, participants were presented with a set of end-of-experiment questions pertaining to empathy, minimum server wage preferences, tipping policy preferences, demographics, restaurant visitation frequency, and restaurant work experience. These end-of-experiment questions assisted in identifying boundary conditions, presenting alternative explanations for observed effects, and describing the sample.

Participants

Similar to Study One, Qualtrics was used to recruit participants and collect data online. Participants comprising of 270 US residents, aged 18 and over, and who dined in a restaurant at least once in the past month were recruited and randomly distributed equally among the six treatment groups. The sample size of 270, calculated using G*Power software, allowed for the detection of medium sized differences at a significance level of .05 (Faul, Erdfelder, Lang, & Buchner, 2007). This study obtained approval from University of Nevada Las Vegas' Institutional Review Board. The IRB approval is provided in Appendix A and the participant informed consent form is provided in Appendix B.

Design

Study Two examined the effect of the minimum server wage, tipping policy, and the interaction of the minimum server wage and tipping policy on perceived fairness and perceived value using a 2 (minimum server wage: $2.13 per hour, $16.00 per hour) x 3 (tipping policy: voluntary tipping, automatic service charge, and service inclusive pricing) between-subjects factorial experimental design. Each of the six treatment conditions comprised 45 randomly assigned participants. A pilot study was conducted to facilitate manipulation checks to test for measurement accuracy and experimental validity. The experimental design is displayed in Table 3.

An email with a link to the online survey was sent via Qualtrics to its panels. Participants were first presented with an online consent form and three screening questions inquiring about their country of residency, age, and dining experience in the prior month. Qualified participants advanced to the survey and restaurant scenario experiment.

Table 3

Study Two Experimental Design

Minimum Server Wage	**Tipping Policy**		
	Voluntary Tip	Automatic Service Charge	Service Inclusive Pricing
$2.13 per hour	45	45	45
$16.00 per hour	45	45	45

Procedure, Stimuli, and Instrument

The complete Study Two questionnaire is provided in Appendix D. The survey began by asking participants questions related to their familiarity with voluntary tipping, automatic service charge, and service inclusive pricing using a three item 7-point Likert type scale (Kimes & Wirtz, 2016; Taylor & Kimes, 2010). These questions were intended to prepare participants for the restaurant dining scenario by priming their thoughts with respect to tipping. After the tipping policy familiarity questions, the online experiment commenced with a detailed introduction explicitly stating that servers in the restaurant scenario earned the minimum server rate ($2.13 per hour / $16.00 per hour) and the restaurant's tipping policy (voluntary tipping / automatic service charge / service inclusive pricing).

All participants were asked to imagine visiting a hypothetical full-service restaurant and were presented with a restaurant stimulus consisting of a description, an exterior restaurant photo, and an interior restaurant photo (Lynn & Wang, 2013). Participants in the voluntary tipping condition were provided with the following description: "Imagine that you are going for

dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour ($16.00 per hour) in this town." Subjects in the automatic service charge condition were provided with the following description: "Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour ($16.00 per hour) in this town. The restaurant has an automatic 15% service charge that will be added to your bill. The service charge will be passed to servers as a tip. Additional tipping is not allowed." Participants in the service inclusive pricing condition were provided with the following description: "Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour ($16.00 per hour) in this town. The restaurant has an all-inclusive pricing policy. Menu prices have been increased by 15% so that the restaurant can pay servers a tip on top of the minimum server wage. Additional tipping is not allowed."

Following the scenario introduction, all subjects were presented with the following information: "You walk into the restaurant. The hostess sees you walk in and immediately greets you. You tell her that you are dining by yourself. The hostess seats you at a table and gives you the menu." In addition to this description, a menu stimulus was provided with the relevant tipping policy description included in the footnote of the menu.

Next, all participants were provided with the following description: "Your server sees you sit down and immediately greets you. After you finish reading the menu, your server returns and asks for your order. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs. The server brings you the iced tea and chicken wings. After you finish the chicken wings, the server brings out the spaghetti & meatballs and takes away the empty chicken wings

plate. The food tastes as you expected. After you finish your meal, the server returns with your bill and takes away all the empty dishes." A tipping policy condition specific bill stimulus was provided with this description.

The menu item total for the voluntary tipping and automatic service charge conditions was equal to $21.65 and tax was equal to $1.10. The menu item total of $21.65 in the scenario was determined by inflating the 2014 full-service restaurant median check size of $20.00 (National Restaurant Association & Deloitte & Touche LLP, 2016) from the December 2014 price level to the March 2019 price level, the most current available index, using the Bureau of Labor Statistics Consumer Price Index (CPI) inflation calculator (Bureau of Labor Statistics, 2019). A sales tax rate of 5.10% was applied to the menu item total to determine sales tax of $1.10. The sales tax rate of 5.10% used in the scenario was determined by averaging the 2019 sales tax rates in the 50 United States of America and the District of Columbia (Cammenga, 2019). The pre-tax subtotal was equal to $24.90 in the service inclusive pricing condition, as menu item prices were inflated by 15%.

After viewing all of the scenario material, perceived fairness of tipping policy and perceived fairness of the minimum server wage were measured using a three item 7-point Likert type scale (Kimes, 1994; Taylor & Kimes, 2010; Wirtz & Kimes, 2007). Perceived value was then assessed using a three item 7-point Likert type scale (Ryu, Han, & Kim, 2008).

After answering questions directly related to the scenario, participants were presented with manipulation check questions designed to measure experimental accuracy and validity. Following the manipulation check questions, respondent empathy was measured using a five item 7-point Likert type scale (Lynn, 2009). The survey concluded with a set of end-of-experiment questions concerning demographics, restaurant work experience, restaurant dining

frequency, attitudes towards the minimum server wage, and attitudes towards tipping policy. Table 4 displays a list of measures used in this study. Reliability of multi-item constructs will be examined and presented in Chapter Four.

Table 4

Study Two Measures

Variable	Measurement	Source
Tipping policy familiarity	I am familiar with tipping servers (automatic service charges) (all-inclusive pricing) in restaurants Tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is usual Tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is typical	Kimes & Wirtz (2016); Taylor & Kimes (2010)
Perceived fairness of tipping policy	I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is fair I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is acceptable I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is reasonable	Kimes (1994); Taylor & Kimes (2010); Wirtz & Kimes (2007)
Perceived value	This restaurant offered good value for the price The overall value of dining at this restaurant was high The dining experience was worth the money	Ryu et al. (2008)
Empathy	I tip to reward good service I tip to help servers make a living I tip in order to feel satisfaction from doing what is right I tip in order to express my generosity I tip in order to support the custom of tipping	Lynn (2009)
Restaurant work experience	I have restaurant work experience I have server work experience	Fisher (2015)
	Manipulation Checks	
Minimum server wage	I think that servers at this restaurant are paid a high hourly wage	
Tipping policy	Which of the following best describes this restaurant's tipping policy?	Lynn & Wang (2013)
Realism	How realistic is this restaurant scenario?	

Pretesting

To ensure proper manipulations of the minimum server wage and tipping policy conditions, a pretest was conducted using a separate sample of respondents recruited by Qualtrics. A sample of 60 subjects composed of US residents, aged 18 and over, and who had dined in a restaurant at least once in the past month was collected. The participants were equally and randomly assigned to one of six treatments ($2.13 per hour minimum server wage x voluntary tipping; $16.00 per hour minimum server wage x voluntary tipping; $2.13 per hour minimum server wage x automatic service charge; $16.00 per hour minimum server wage x automatic service charge; $2.13 per hour minimum server wage x service inclusive pricing; $16.00 per hour minimum server wage x service inclusive pricing). After completing the online scenario experiment, participants were asked to rate their level of agreement with the following statement, "I think that servers at this restaurant are paid a high hourly wage" on a 7-point Likert type scale. Results revealed a significant difference between the $2.13 per hour minimum server wage group (M = 3.13, SD = 2.30) and the $16.00 per hour minimum server wage group (M = 5.00, SD = 2.02); $t(58) = -3.342$, $p = .001$, indicating that the minimum server wage manipulation was effective. Subjects were then asked to answer the following question, "Which of the following best describes this restaurant's tipping policy?" (tipping; automatic service charge; all-inclusive pricing). A chi-square test of homogeneity of the three tipping policy groups was significant, $\chi^2(10) = 47.619$, $p < .001$, indicating that the tipping policy manipulation was effective.

Overview of Analysis

Factorial analysis of variance (ANOVA), factorial analysis of covariance (ANCOVA), conditional indirect effects model testing, t-tests, and descriptive analysis were applied to

analyze the data. ANOVA encompasses a body of statistical analyses for designed experiments focused on comparing variances from different sources of variability, between-groups and within-groups (Keppel & Wickens, 2004, p. 24). ANCOVA is a more specialized from of analysis as it incorporates a covariate, also known as a concomitant variable. The inclusion of a covariate in variance analysis increases power as the variability associated with the concomitant variable is removed from the error term (Keppel & Wickens, 2004, p. 311). The variability of the error term is reduced in ANCOVA as scores are statistically adjusted. A covariate is effective when it is strongly correlated with the dependent variable while not correlated with the independent variables (Hair, Black, Babin, Anderson, & Tatham, 2011, p. 456; Keppel & Wickens, 2004, p. 312). Conditional indirect effects analysis is an appropriate procedure to determine and quantify the conditional nature of the transmission of effect from one variable to another (Hayes, 2018a, p. 10). IBM SPSS 23.0 statistical software package was utilized to conduct all analyses.

Tipping rate was the dependent variable in all hypothesis tests conducted in Study One. To test hypotheses 1, 2, and 3, an ANCOVA was conducted to test the effect of the minimum server wage, moderated by service quality, on tipping rate while controlling for voluntary tipping familiarity. Minimum server wage and service quality were both dichotomous while the mean score of the three familiarity questions was used as a composite for voluntary tipping familiarity. Hypothesis 4 was tested by utilizing the PROCESS macro (Hayes, 2018a), designed to test conditional indirect effects models, for SPSS. Specifically, PROCESS model 4 was used to test for the expected mediation effect in hypothesis 4. Hypotheses 5, 6, 6a, 8, 9, 9a, 11, 11a, and 12 were tested in interlinked steps using PROCESS models 4, 14, 7, and 21. Indices of moderated

mediation and moderated moderated mediation were used to identify significant conditional indirect effects. Significant moderation effects were followed-up with simple slope analyses.

Data collected in Study Two were used to test hypotheses 7 and 10. An ANOVA was conducted to test the effect of tipping policy, moderated by minimum server wage, on perceived fairness of tipping policy. Tipping policy was trichotomous, the minimum server wage was dichotomous, and the mean score of the three perceived fairness questions was used as a composite for perceived fairness of tipping policy. Follow-up tests were conducted on significant effects using post-hoc one-way analyses of variance with Tukey HSD follow-up. An ANCOVA was performed to test the effect of tipping policy on perceived value while controlling for empathy. Tipping policy was trichotomous, the mean score of the three perceived value questions was used as a composite for perceived value, and the mean score of the five empathy questions was used as a composite for empathy. Follow-up tests were conducted on significant effects using Tukey HSD post hoc tests.

Limitations and Potential Errors

Limitations associated with most experimental research are applicable to the current studies. The foremost caveat of experimental design is the presentation of a hypothetical scenario as a substitute for a real-world scenario followed by asking respondents to evaluate stimuli in the absence of a real monetary trade off (Fong, Law, Tang, & Yap, 2016). In the present research, the results of participant attitudes, behaviors, and perceptions may be biased. The results of the current studies may be restricted to the current experimental conditions limiting the generalizability of findings.

Summary

This chapter discussed the overall methodology of the two studies comprising this dissertation. The research designs, participants, stimuli, procedures, instruments, and pretesting analysis were described in this chapter. Results arising from the application of these methods are presented in the following chapter.

CHAPTER FOUR

RESULTS

This chapter presents the results of the two studies conducted following the research methods discussed in the previous chapter. Based on the data analysis plan presented in Chapter Three, findings are presented in the order of the studies conducted.

Study One

Focused on voluntary tipping, Study One investigated the role of the minimum server wage and service quality in relationships with tipping rate, perceived fairness of the minimum server wage, perceived fairness of voluntary tipping, empathy, and voluntary tipping familiarity. The following sections are organized as follows: respondent demographics; validity and reliability; the interaction of the minimum server wage and service quality on tipping rate; conditional indirect effects of the minimum server wage on tipping rate; and conditional indirect effects of service quality on tipping rate.

Respondent Demographics

A total of 630 online subjects were recruited for Study One. Gender was equally represented and age was distributed as follows: 13.0% between 18 and 24, 20.6% between 25 and 34, 19.7% between 35 and 44, 20.3% between 45 and 54, 15.9% between 55 and 64, and 10.5% were over 64. Nearly one third of the respondents (63.5%) held a college degree and approximately half (49.2%) of the subjects were employed full-time. Within the sample, 41.0% of the respondents reported annual household income of less than $50,000 while the remaining 59.0% reported household income of $50,000 or more. The average restaurant dining frequency was 5.7 times per month, with a lowest frequency of less than once a month and a highest

frequency of daily. A notable portion of the respondents had restaurant work experience, with 29.4% in server positions and 13.0% in non-server positions. The detailed demographic profile of the respondents is presented in Table 5.

Table 5

Study One Respondent Demographics

		Frequency	%
Gender	Male	315	50.0
	Female	315	50.0
Age	18 – 24	82	13.0
	25 – 34	130	20.6
	35 – 44	124	19.7
	45 – 54	128	20.3
	55 – 64	100	15.9
	65 and over	66	10.5
Education	Some high school	16	2.5
	High school	206	32.7
	Associate degree	117	18.6
	Bachelor degree	188	29.8
	Graduate degree	95	15.1
	Prefer not to answer	8	1.3
Employment	Full-time	310	49.2
	Part-time	67	10.6
	Retired	97	15.4
	Unemployed	89	14.1
	Student	25	34.0
	Self employed	36	5.7
	Prefer not to answer	6	1.0
Household income	Under $25,000	114	18.1
	$25,000 - $49,999	144	22.9
	$50,000 - $74,999	120	19.1
	$75,000 - $99,999	76	12.1
	$100,000 and over	176	27.9
Monthly restaurant dining frequency	Less than once a month	3	0.5
	1 – 2	139	22.1
	3 – 5	273	43.3
	6 – 10	153	24.3
	11 – 15	31	4.9
	More than 15	31	4.9
Work experience	No restaurant work experience	363	57.6
	Non-server restaurant experience	82	13.0
	Server work experience	185	29.4

Note. $N = 630$.

Validity and Reliability

Subjects were randomly assigned to one of four different treatment groups in a 2 x 2 between-subjects experimental design. Consequently, potential internal validity concerns of sample maturity, mortality, learning effects, and historical effects were minimized. The Cronbach's alpha of variables that utilized multi-item measurements all exceeded .700, indicating that all variables possessed internal consistency and reliability (Hair, Black, Babin, Anderson, & Tatham, 2011) and are presented in Table 6.

Table 6

Study One Internal Reliability of Multi-item Measured Variables

Variable	Measurement	Cronbach's α
Voluntary tipping familiarity	I am familiar with tipping servers in restaurants Tipping servers in restaurants is usual Tipping servers in restaurants is typical	.883
Perceived fairness of the minimum server wage	The think that the $2.13 per hour ($16.00 per hour) minimum server wage is fair The think that the $2.13 per hour ($16.00 per hour) minimum server wage is acceptable The think that the $2.13 per hour ($16.00 per hour) minimum server wage is reasonable	.973
Perceived fairness of voluntary tipping	I think that tipping is fair I think that tipping is acceptable I think that tipping is reasonable	.956
Empathy	I tip to reward good service I tip to help servers make a living I tip in order to feel satisfaction from doing what is right I tip in order to express my generosity I tip in order to support the custom of tipping	.733

To assess external and ecological validity, manipulation checks were conducted after respondents answered survey questions pertaining to their assigned treatment group. The minimum server wage manipulation was assessed by asking subjects how strongly they agreed

with the following statement, "I think that servers at this restaurant are paid a high hourly wage" on a 7-point Likert type scale (1 = strongly disagree; 7 = strongly agree). There was a significant difference between the $2.13 per hour minimum server wage group (M = 2.53, SD = 1.73) and the $16.00 per hour minimum server wage group (M = 5.18, SD = 1.58); $t(628)$ = -20.071, $p < .001$. The service quality manipulation was evaluated by asking respondents to rate the level of service quality provided in the restaurant scenario on a 7-point Likert type scale (1 = low; 7 = high). There was a significant difference between the low service quality group (M = 3.39, SD = 1.58) and the high service quality group (M = 6.18, SD = 1.03); $t(628)$ = -26.126, $p < .001$. The results of these t-tests indicate that both the minimum server wage and service quality manipulations were effective. In addition to the manipulation check questions, respondents were asked to rate the level of realism of the scenario depicting a restaurant dining experience on a 7-point Likert type scale (1 = completely unrealistic; 7 = completely realistic). The mean rating was 5.21 (SD = 1.63) suggesting that the subjects perceived the scenario as realistic.

The Interaction of the Minimum Server Wage and Service Quality on Tipping Rate

The data were submitted to a 2 x 2 two factor analysis of covariance (ANCOVA) with the minimum server wage ($2.13 per hour and $16.00 per hour) as one independent variable, service quality (low and high) as the second independent variable, and tipping rate as the dependent measure. Voluntary tipping familiarity was found to significantly correlate with tipping rate (Pearson's r = .219, p < .001) and not significantly correlate with the minimum server wage or service quality. Subsequently, voluntary tipping familiarity was the covariate. The statistical test for the covariate was significant, $F(1, 625) = 36.290$ (MSE = 2,308.802, η^2 = .006), $p < .001$. The statistical test for the minimum server wage main effect was also significant, $F(1, 625)$ = 5.192 (MSE = 330.293, η^2 = .008), p = .023, indicating that tipping rate is higher when the

minimum server wage is $2.13 per hour ($M$ = 13.73) and lower when the minimum server wage is $16.00 per hour ($M$ = 12.28). Consequently, hypothesis 1 is supported. The statistical test for the service quality main effect was significant, $F(1, 625) = 119.675$ (MSE = 7,613.772, η^2 = .161), $p < .001$, indicating that tipping rate is higher when service quality is high (M = 16.48) and lower when service quality is low (M = 9.53). Thus, hypothesis 2 is supported. The statistical test for the minimum server wage x service quality interaction effect was not significant, $F(1, 625) = 0.272$ (MSE = 17.292, η^2 = .000), p = .602. Accordingly, hypothesis 3 is not supported. The mean tipping rate, as a percentage of bill total, and significance tests are displayed in Table 7.

Table 7

Tipping Rate ANCOVA Results

Dependent Variable	Independent variables		$F(1,625)$	η^2
	Minimum server wage			
	$2.13 per hour	$16.00 per hour		
Tipping rate	13.73	12.28	5.192*	.008
	Service quality			
	Low	High		
Tipping rate	9.53	16.48	119.657***	.023

Note. *$p < .05$. ***$p < .001$.

Conditional Indirect Effects of the Minimum Server Wage on Tipping Rate

Hypothesis 4 suggests an indirect effects model, also known as a simple mediation model, where the minimum server wage transmits its effect on tipping rate through perceived fairness of the minimum server wage as an intermediary variable. The casual steps approach (Baron & Kenny, 1986), requiring the identification of a significant direct effect from the independent variable to the dependent variable in step one before continuing to subsequent steps in the process, was a previously popular method of testing for mediation (Perera, 2013). However, methodologists have since questioned the prerequisite of a significant direct effect

prior to testing for an indirect effect, as significant mediation can exist notwithstanding a non-significant direct effect (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2001). As a result, many contemporary approaches have turned to formal significance tests, such as the Sobel (1982) test, of indirect effects focused on product of coefficients and bootstrapping to find support for mediation (Hayes, 2018a; MacKinnon, Krull, & Lockwood, 2000; Perera, 2013; Preacher & Hayes, 2004, 2008; Shrout & Bolger, 2002). Accordingly, hypothesis 4 was tested in a simple mediation model using the PROCESS macro for SPSS (Hayes, 2018a) with the minimum server wage as the independent variable, perceived fairness of the minimum server wage as the mediator, and tipping rate as the dependent variable in PROCESS model 4. To mitigate against non-essential multicollinearity, all continuous variables were centered on their means (Aiken & West, 1991; Muller, Judd, & Yzerbyt, 2005).

Bootstrap tests of mediated effect revealed that the indirect effect of the minimum server wage on tipping rate via perceived fairness of the minimum server wage was not statistically significant (indirect effect = 0.796, *SE* = 0.633, 95% CI = -0.445, 2.055). Consequently, hypothesis 4 is not supported. The results of the mediation model are presented in Table 8.

Table 8

Mediation of Tipping Rate Regressed on the Minimum Server Wage OLS Regression Results

	B	*SE*	*t*	R^2
Perceived fairness of the minimum server wage				
Constant	2.516	0.095	26.605***	.383***
Minimum server wage	2.635	0.134	19.736***	
Tipping rate				
Constant	12.879	0.733	17.573***	.008
Minimum server wage	-2.060	0.903	-2.281*	
Perceived fairness of minimum server wage	0.302	0.212	1.425	

Note. $N = 630$. *$p < .05$. ***$p < .001$.

Conditional Indirect Effects of Service Quality on Tipping Rate

Hypothesis testing of the conditional indirect effects of service quality on tipping rate was conducted in a series of four interlinked steps. First, a mediation model was tested, next a second stage moderated mediation model was examined, then a first stage moderated mediation model was analyzed, and finally a moderated moderated mediation model was tested. To mitigate against non-essential multicollinearity, all continuous variables were centered on their means (Aiken & West, 1991; Muller et al., 2005).

Step 1: Mediation model testing.

Hypotheses 5 and 8 were tested using a parallel mediation model with service quality as the independent variable and tipping rate as the dependent variable. The PROCESS macro for SPSS (Hayes, 2018a) was used with fairness of voluntary tipping and empathy assigned as parallel mediators in PROCESS model 4. The parallel mediator model is shown in Figure 8. In line with predictions, bootstrap tests of mediated effect revealed that the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping was statistically significant (indirect effect = 0.371, *SE* = 0.143, 95% CI = 0.113, 0.674) and in the expected directions. Thus, hypothesis 5 is supported. Bootstrap tests of mediated effect revealed that the indirect effect of service quality on tipping rate via empathy was not statistically significant (indirect effect = 0.131, *SE* = 0.092, 95% CI = -0.016, 0.343). Consequently, hypothesis 8 is not supported. The results of the parallel mediation model are presented in Table 9.

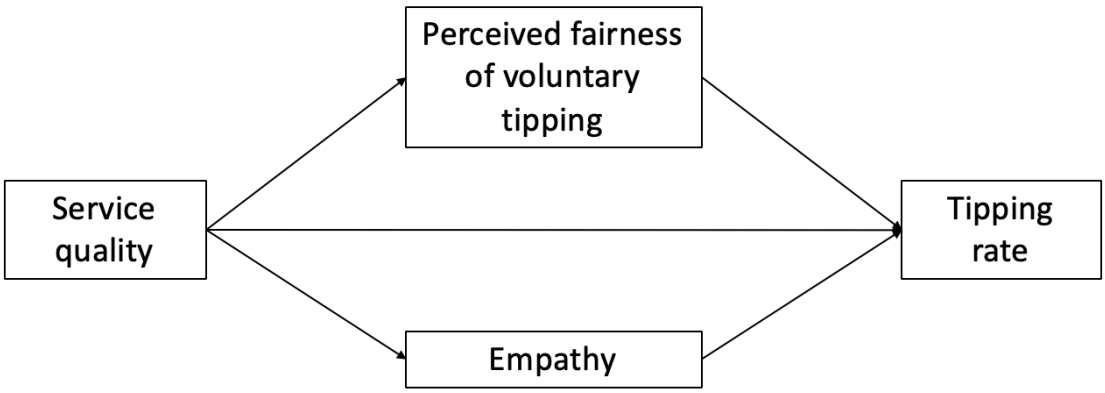

Figure 8. Parallel mediation of tipping rate regressed on service quality.

Table 9

Mediation of Tipping Rate Regressed on Service Quality OLS Regression Results

	B	*SE*	*t*	R^2
Perceived fairness of voluntary tipping				
Constant	5.918	0.062	95.201***	.014*
Service quality	0.259	0.088	2.949*	
Empathy				
Constant	5.359	0.057	93.647***	.011*
Service quality	0.214	0.081	2.644	
Tipping Rate				
Constant	-2.257	2.023	-1.116	.203***
Service quality	6.528	0.642	10.169***	
Perceived fairness of voluntary tipping	1.430	0.329	4.345***	
Empathy	0.613	0.357	1.715	

Note. $N = 630$. *$p < .05$. ***$p < .001$.

As the mediation of empathy on the effect of service quality on tipping rate was not significant, the second stage moderation of the minimum server wage on the mediation of empathy on the effect of service quality on tipping rate was not tested. Thus, hypotheses 9 and 9a are not supported.

Step 2: Second stage moderated mediation model testing.

As perceived fairness of voluntary tipping was found to significantly mediate the effect of service quality on tipping rate, the strength of the indirect effect conditional on the minimum

server wage was subsequently tested in a second stage moderated mediation model. Hypotheses 6 and 6a were tested using PROCESS model 14 with service quality as the independent variable, perceived fairness of voluntary tipping as the mediator, the minimum server wage as the moderator, and tipping rate as the dependent variable. The cross-product term between perceived fairness of voluntary tipping and the minimum server wage was significant (B = 1.370, SE = 0.573, t = 2.392, p = 0.017). Evidence of moderated mediation was ascertained by a significant index of moderated mediation (Hayes, 2015) (index of moderated mediation = 0.355, SE = 0.190, 95% CI = 0.051, 0.798). When the bootstrap confidence interval of the index of moderated mediation does not contain zero, a formal test has quantified the relationship between an indirect effect and a moderator, and infers (1) a non-zero relationship between an indirect effect and moderator and (2) "implies that *any* two conditional indirect effects defined by different values of the moderator are statistically different" (Hayes, 2015, p. 14). Consequently, hypothesis 6 is supported.

To test hypothesis 6a, simple slopes were plotted for the two minimum server wage conditions and are presented in Figure 9. In line with expectations, the slope of the relationship between perceived fairness of voluntary tipping and tipping rate was relatively weaker for the $2.13 per hour minimum server wage condition (simple slope = 1.662, t = 5.763, p < .001) and relatively stronger for the $16.00 per hour minimum server wage condition (simple slope = 3.032, t = 4.764, p < .001). This result indicates that the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping is stronger when the minimum server wage is higher. Accordingly, hypothesis 6a is supported. The results of the second stage moderated mediation model are presented in Table 10.

Table 10

Second Stage Moderated Mediation of Tipping Rate Regressed on Service Quality OLS Regression Results

	B	*SE*	*t*	R^2
Perceived fairness of voluntary tipping				
Constant	-0.130	0.062	-2.085*	.014*
Service quality	0.259	0.088	2.949*	
Tipping rate				
Constant	9.727	0.450	21.612***	.210***
Service quality	6.633	0.639	10.385***	
Perceived fairness of voluntary tipping	1.662	0.288	5.763***	
Minimum server wage	-1.076	0.635	-1.694	
Perceived fairness of voluntary tipping x Minimum server wage	1.370	0.573	2.392*	

		5,000 bootstrap samples		
Minimum server wage	Conditional indirect effect	*SE*	95% LCI	95% UCI
$2.13 per hour	0.431	0.148	0.147	0.734
$16.00 per hour	0.786	0.289	0.263	13.398

Note. $N = 630$. *$p < .05$. ***$p < .001$.

Figure 9. Tipping rate predicted by perceived fairness of voluntary tipping moderated by the minimum server wage.

Step 3: First stage moderated mediation model testing

As perceived fairness of voluntary tipping was found to significantly mediate the effect of service quality on tipping rate, the first stage moderation of voluntary tipping familiarity on the mediation of perceived fairness of voluntary tipping on the effect of service quality on tipping rate was tested. Hypotheses 11 and 11a were tested using PROCESS model 7 with service quality as the independent variable, voluntary tipping familiarity as the moderator, perceived fairness of voluntary tipping as the mediator, and tipping rate as the dependent variable. The cross-product term between service quality and voluntary tipping familiarity was significant ($B = 0.290$, $SE = 0.072$, $t = 4.036$, $p < 0.001$). Evidence of moderated mediation was ascertained by a significant index of moderated mediation (Hayes, 2015) (index of moderated mediation = 0.493, $SE = 0.244$, 95% CI = 0.026, 0.971). When the bootstrap confidence interval of the index of moderated mediation does not contain zero, a formal test has quantified the relationship between an indirect effect and a moderator, and infers (1) a non-zero relationship between an indirect effect and moderator and (2) "implies that *any* two conditional indirect effects defined by different values of the moderator are statistically different" (Hayes, 2015, p. 14). Consequently, hypothesis 11 is supported.

To test hypothesis 11a, conventional procedures for plotting simple slopes at one standard deviation above and below the mean of voluntary tipping familiarity were applied. The results of the simple slopes analysis are presented in Figure 10. Consistent with expectations, the slope of the relationship between voluntary tipping familiarity and perceived fairness of voluntary tipping was relatively weaker when service quality is low (simple slope = 0.047, $t = 0.511$, $p = .610$) and relatively stronger when service quality is high (simple slope = 0.432, $t = 4.764$, $p < .001$). As shown in Table 11, the indirect effect of service quality on tipping rate

through perceived fairness of voluntary tipping is significant when voluntary tipping familiarity is moderate (i.e., mean value) and high (i.e., one standard deviation above the mean). Accordingly, hypothesis 11a is supported. The results of the first stage moderated mediation model are presented in Table 11.

Table 11

First Stage Moderated Mediation of Tipping Rate Regressed on Service Quality OLS Regression Results

	B	*SE*	*t*	R^2
Perceived fairness of voluntary tipping				
Constant	6.044	0.039	155.790***	.234***
Service quality	0.239	0.078	3.081*	
Voluntary tipping familiarity	0.476	0.036	13.259***	
Service quality x Voluntary tipping familiarity	0.290	0.072	4.036***	
Tipping rate				
Constant	2.725	1.779	1.532	.199***
Service quality	6.589	0.642	10.265***	
Perceived fairness of voluntary tipping	1.700	0.289	5.874***	

		5,000 bootstrap samples		
Voluntary tipping familiarity	Conditional indirect effect	*SE*	95% LCI	95% UCI
Conditional indirect effect at voluntary tipping familiarity = *M* ± 1 *SD*				
-1 *SD* (-1.0932)	-0.078	0.111	-0.030	0.139
M (0.00)	0.239	0.078	0.087	0.392
+1 *SD* (0.6656)	0.432	0.091	0.253	0.611
Conditional indirect effect at range of values of voluntary tipping familiarity				
-5.334	-1.307	0.391	-2.074	-0.539
-5.034	-1.220	0.370	-1.950	-0.493
-4.734	-1.133	0.349	-1.818	-0.448
-4.434	-1.046	0.328	-1.690	-0.402
-4.134	-0.959	0.307	-1.562	-0.360
-3.834	-0.872	0.286	-1.434	-0.310
-3.534	-0.785	0.266	-1.307	-0.264
-3.234	-0.698	0.245	-1.180	-0.217
-2.934	-0.611	0.225	-1.052	-0.170
-2.634	-0.524	0.205	-0.926	-0.122
-2.334	-0.437	0.185	-0.800	-0.074
-2.034	-0.350	0.166	-0.676	-0.025
-1.883	-0.306	0.156	-0.613	0.000
-1.734	-0.264	0.147	-0.552	0.025
-1.434	-0.177	0.129	-0.430	0.077
-1.134	-0.090	0.113	-0.311	0.132
-0.834	-0.003	0.098	-0.196	0.190
-0.534	0.084	0.087	-0.086	0.254
-0.281	0.158	0.080	0.000	0.315
-0.234	0.171	0.079	0.015	0.327
0.066	0.258	0.078	0.106	0.411
0.366	0.345	0.082	0.184	0.506
0.666	0.432	0.091	0.253	0.611

Note. $N = 630$. *$p < .05$. ***$p < .001$.

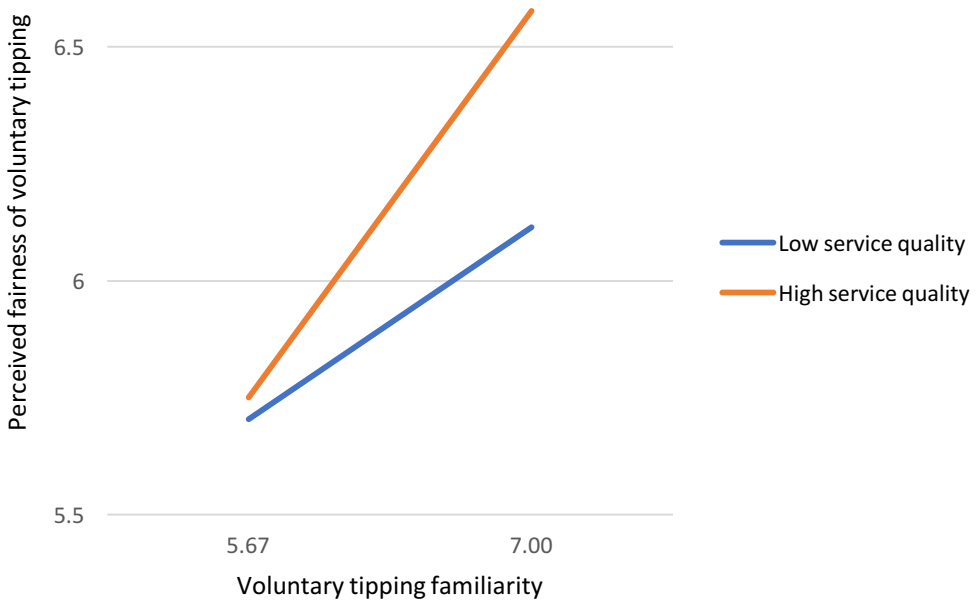

Figure 10. Perceived fairness of voluntary tipping predicted by voluntary tipping familiarity moderated by service quality.

Step 4: Moderated moderated mediation model testing

As the second stage moderated mediation and first stage moderated mediation models in steps 2 and 3 respectively were both statistically significant, voluntary tipping familiarity and the minimum server wage as moderators were subsequently tested together in a moderated moderated mediation model. Hypothesis 12 was tested using PROCESS model 21 with service quality as the independent variable, voluntary tipping familiarity as the first stage moderator, perceived fairness of voluntary tipping as the mediator, the minimum server wage as the second stage moderator, and tipping rate as the dependent variable. Evidence of moderated moderated mediation was ascertained by a significant index of moderated moderated mediation (Hayes, 2018b) (index of moderated moderated mediation = 0.397, *SE* = 0.261, 95% CI = 0.000, 0.993).

When the bootstrap confidence interval of the index of moderated moderated mediation does not contain zero, a formal test has confirmed that "the moderation of the indirect effect by one moderator is itself moderated by the other moderator" (Hayes, 2018b, p. 26). The positive and significant index of moderated moderated mediation indicates that the moderation of voluntary tipping familiarity of the indirect effect of service quality on tipping rate increases when the minimum server wage increases from $2.13 per hour to $16.00 per hour. As shown in Table 12, the moderation of voluntary tipping familiarity on the moderation of the minimum server wage on the indirect effect of service quality on tipping rate through perceived fairness of voluntary tipping is significant when voluntary tipping familiarity is moderate (i.e., mean value) and high (i.e., maximum value). Consequently, hypothesis 12 is supported.

Table 12

Moderated Moderated Mediation of Tipping Rate Regressed on Service Quality OLS Regression Results

	B	*SE*	*t*	R^2
Perceived fairness of voluntary tipping				
Constant	-0.123	0.055	-2.235*	.234***
Service quality	0.239	0.078	3.081*	
Voluntary tipping familiarity	0.331	0.047	7.054***	
Service quality x Voluntary tipping familiarity	0.290	0.072	4.036***	
Tipping rate				
Constant	9.727	0.450	21.612***	.210***
Service quality	6.633	0.634	10.385***	
Voluntary tipping familiarity	1.662	0.289	5.763***	
Minimum server wage	-1.076	0.635	-1.694	
Perceived fairness of voluntary tipping x Minimum server wage	1.370	0.573	2.392*	

Conditional indirect effects at various moderator values

			5,000 bootstrap samples		
Voluntary tipping familiarity	Minimum server wage	Indirect effect estimate	*SE*	95% LCI	95% UCI
5.24 (*M* – 1 *SD*)	$2.13 per hour	-0.129	0.315	-0.742	0.482
5.24 (*M* – 1 *SD*)	$16.00 per hour	-0.236	0.584	-1.391	0.892
6.33 (*M*)	$2.13 per hour	0.397	0.135	0.148	0.671
6.33 (*M*)	$16.00 per hour	0.725	0.262	0.260	1.304
7 (max)	$2.13 per hour	0.718	0.194	0.356	1.119
7 (max)	$16.00 per hour	1.310	0.385	0.631	2.130

	5,000 bootstrap samples			
	Index	*SE*	95% LCI	95% UCI
Moderated moderated mediation	0.397	0.261	0.000	0.993
Conditional moderated mediation				
By voluntary tipping familiarity between:				
Minimum server wage = $2.13 per hour	0.482	0.242	0.025	0.962
Minimum server wage = $16.00 per hour	0.879	0.458	0.048	1.839
By minimum server wage among:				
Voluntary tipping familiarity = 5.24 (*M* – 1 *SD*)	-0.106	0.285	-0.735	0.452
Voluntary tipping familiarity = 6.33 (*M*)	0.328	0.172	0.051	0.731
Voluntary tipping familiarity = 7 (max)	0.592	0.592	0.109	1.205

Note. $N = 630$. *$p < .05$. ***$p < .001$.

Study Two

Study Two investigated the role of the minimum server wage in combination with different tipping policies on perceived fairness of tipping policy and perceived value. The following sections are organized as follows: respondent demographics; validity and reliability; perceived fairness of tipping policy; and perceived value.

Respondent Demographics

A total of 270 participants with equal gender representation were recruited for Study Two. Respondent age was distributed as follows: 12.6% between 18 and 24, 18.2% between 25 and 34, 17.0% between 35 and 44, 18.2% between 45 and 54, 15.6% between 55 and 64, and 18.5% were over 64. Nearly half of the subjects were employed full-time (48.9%) and 63.3% held a college degree. Within the sample, 40.0% of the respondents reported annual household income of under $50,000, while the remaining 60.0% report household income of $50,000 or more. Nearly a quarter (23.7%) of the respondents had server work experience, while 15.6% had restaurant work experience in non-server positions. The detailed demographic profile of the respondents is presented in Table 13.

Table 13

Study Two Respondent Demographics

		Frequency	%
Gender	Male	135	50.0
	Female	135	50.0
Age	18 – 24	34	12.6
	25 – 34	49	18.2
	35 – 44	46	17.0
	45 – 54	49	18.2
	55 – 64	42	15.6
	65 and over	50	18.5
Education	Some high school	7	2.6
	High school	88	32.6
	Associate degree	33	12.2
	Bachelor degree	84	31.1
	Graduate degree	54	20.0
	Prefer not to answer	4	1.5
Employment	Full-time	132	48.9
	Part-time	29	10.7
	Retired	48	17.8
	Unemployed	27	10.0
	Student	17	6.3
	Self employed	13	4.8
	Prefer not to answer	4	1.5
Household income	Under $25,000	47	17.4
	$25,000 - $49,999	61	22.6
	$50,000 - $74,999	51	18.9
	$75,000 - $99,999	37	13.7
	$100,000 and over	74	27.4
Monthly restaurant dining frequency	Less than once a month	3	1.1
	1 – 2	69	25.6
	3 – 5	115	42.6
	6 – 10	64	23.7
	11 – 15	6	2.2
	More than 15	13	4.8
Work experience	No restaurant work experience	164	60.7
	Non-server restaurant experience	42	15.6
	Server work experience	64	23.7

Note. $N = 270$.

Validity and Reliability

Subjects were randomly assigned to one of six different treatment groups in a 2 x 3 between-subjects experimental design. Accordingly, potential impairments to internal validity such as sample maturity, mortality, learning effects, and historical effects were mitigated against. The Cronbach's alpha of variables that utilized multi-item measurements all exceeded .700, indicating that all variables possessed internal consistency and reliability (Hair et al., 2011) and are presented in Table 14.

Table 14

Study Two Internal Reliability of Multi-item Measured Variables

Variable	Measurement	Cronbach's α
Tipping policy familiarity	I am familiar with tipping servers (automatic service charges) (all-inclusive pricing) in restaurants Tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is usual Tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is typical	.916
Perceived fairness of tipping policy	I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is fair I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is acceptable I think tipping servers (automatic service charges) (all-inclusive pricing) in restaurants is reasonable	.964
Perceived value	This restaurant offered good value for the price The overall value of dining at this restaurant was high The dining experience was worth the money	.712
Empathy	I tip to reward good service I tip to help servers make a living I tip in order to feel satisfaction from doing what is right I tip in order to express my generosity I tip in order to support the custom of tipping	.744

To assess external and ecological validity, manipulation checks were conducted after respondents answered survey questions pertaining to their assigned treatment group. The minimum server wage manipulation was assessed by asking subjects how strongly they agreed with the following statement, "I think that servers at this restaurant are paid a high hourly wage" on a 7-point Likert type scale (1 = strongly disagree; 7 = strongly agree). There was a significant difference between the $2.13 per hour minimum server wage group (M = 2.62, SD = 1.76) and the $16.00 per hour minimum server wage group (M = 4.97, SD = 1.71), $t(268) = -11.127$, $p < .001$, indicating that the minimum wage manipulation was successful. The tipping policy manipulation was evaluated by asking respondents, "Which of the following best describes this restaurant's tipping policy?" (tipping; automatic service charge; all-inclusive pricing). A chi-square test of homogeneity of the three tipping policy groups was significant, $\chi^2(10) = 182.062$, $p < .001$, indicating that the tipping policy manipulation was effective at producing the intended tipping policy differences. In addition to the manipulation check questions, respondents were asked to rate the level of realism of the scenario depicting a restaurant dining experience on a 7-point Likert type scale (1 = completely unrealistic; 7 = completely realistic). The mean rating was 4.70 (SD = 1.78) suggesting that the subjects perceived the scenario as realistic.

Perceived Fairness of Tipping Policy

The data were submitted to a 2 x 3 two factor analysis of variance (ANOVA) with the minimum server wage ($2.13 per hour and $16.00 per hour) as one independent variable, tipping policy (voluntary tipping, automatic service charge, and service inclusive pricing) as the second independent variable, and perceived fairness of tipping policy as the dependent measure. The statistical test for the minimum server wage main effect was not significant, $F(1, 264) = 0.426$

(*MSE* = 1.155, η^2 = .002), *p* = .514. The statistical test for the tipping policy main effect was significant, *F*(2, 264) = 21.588 (*MSE* = 721.588, η^2 = .141), *p* < .001. Post-hoc one-way analyses of variance with Tukey HSD follow-up revealed that voluntary tipping had the highest level of perceived fairness overall. The statistical test for the minimum server wage x tipping policy interaction effect was not significant, *F*(2, 264) = 0.276 (*MSE* = 0.749, η^2 = .002), *p* = .759. Consequently, hypothesis 7 is not supported. The mean perceived fairness of tipping policy, calculated on a 7-point Likert type scale, and significance tests are displayed in Table 15.

Table 15

Perceived Fairness of Tipping Policy ANOVA Results

Dependent Variable	Independent variables			*F*(1,264)	η^2
	Minimum server wage				
	$2.13/hour	$16.00/hour			
Perceived fairness of tipping policy	5.07	5.20		0.426	.002
Dependent Variable	Independent variables			*F*(2,264)	η^2
	Tipping Policy				
	Voluntary tipping	Automatic service charge	Service inclusive pricing		
Perceived fairness of tipping policy	6.06	4.54	4.83	21.588***	.141

Note. ***p < .001.

Perceived Value

The data were submitted to a one-way analysis of covariance (ANCOVA) with tipping policy (voluntary tipping, automatic service charge, and service inclusive pricing) as the independent variable and perceived value as the dependent measure. Empathy was found to significantly correlate with perceived value (Pearson's *r* = .341, *p* < .001) and not significantly correlate with tipping policy. Subsequently, empathy was the covariate. The statistical test for the covariate was significant, *F*(1,266) = 36.416 (*MSE* = 51.833, η^2 = .120), *p* < .001. The

statistical test for tipping policy was also significant, F(2,266) = 5.397 (*MSE* = 7.682, η^2 = .039), *p* = .005. A Tukey HSD follow-up procedure revealed that voluntary tipping had the highest perceived value overall. Consequently, hypothesis 10 is partially supported. The mean perceived value, calculated on a 7-point Likert type scale, and significance tests are displayed in Table 16.

Table 16

Perceived Value ANCOVA Results

Dependent Variable	Independent variables			*F*(2,266)	η^2
	Tipping Policy				
	Voluntary tipping	Automatic service charge	Service inclusive pricing		
Perceived value	5.15	4.56	4.81	5.397***	.039

Note. ***$p < .001$.

Summary

The results of the two studies conducted for this dissertation were presented in this chapter providing support for select hypotheses. Discussion of the findings, implications, and concluding thoughts are presented in the following chapter.

CHAPTER FIVE

DISCUSSION AND CONCLUSIONS

This chapter presents the major findings and the implications of this two study dissertation. Using equity theory as a theoretical foundation, and in combination with established tipping antecedents, this dissertation examined the role and influence of the minimum server wage in the restaurant tipping phenomenon. A discussion of the findings of each study are presented, followed by theoretical implications and practical implications. Lastly, this chapter concludes with limitations and recommendations for future research.

Discussion of Findings

Grounded in equity theory, this dissertation investigated the influence of the minimum server wage, in combination with established antecedents, on restaurant guest tipping behavior, perceptions of fairness, and perceptions of value. The variables of interest were isolated and tested by conducting two separate between-subjects online scenario experiments. Study One focused on voluntary tipping to examine the effect of the minimum server wage on tipping rate while considering service quality, perceptions of fairness, and familiarity. Study Two explored the influence of the minimum server wage in different tipping policies. Analysis of covariance (ANCOVA), conditional indirect effects analysis, and analysis of variance (ANOVA) were conducted to test the hypotheses.

Study One

The hypothesis testing results for Study One are displayed in Table 17.

Table 17

Study One Hypothesis Testing Results

Hypothesis		Supported
H_1	Tipping rate is higher when the minimum server wage is low versus when the minimum server wage is high.	Yes
H_2	Tipping rate is higher when service quality is high versus when service quality is low.	Yes
H_3	The effect of service quality on tipping rate differs for different minimum server wage conditions. Specifically, when the minimum server wage is low, service quality will not affect tipping rate. When the minimum server wage is high, tipping rate is higher when service quality is high versus when service quality is low.	No
H_4	The negative effect of the minimum server wage on tipping rate is mediated by perceived fairness of the minimum server wage. Specifically, the minimum server wage has a positive effect on perceived fairness of the minimum server wage and perceived fairness of the minimum server wage has a negative effect on tipping rate.	No
H_5	The positive effect of service quality on tipping rate is mediated by perceived fairness of voluntary tipping. Specifically, service quality has a positive effect on perceived fairness of voluntary tipping and perceived fairness of voluntary tipping has a positive effect on tipping rate.	Yes
H_6	The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.	Yes
H_{6a}	The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when the minimum server wage is higher versus when the minimum server wage is lower.	Yes
H_8	The positive effect of service quality on tipping rate is mediated by empathy. Specifically, service quality has a positive effect on empathy and empathy has a positive effect on tipping rate.	No
H_9	The minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via empathy.	No
H_{9a}	The indirect effect of service quality on tipping rate via empathy will be stronger when the minimum server wage is lower versus when the minimum server wage is higher.	No

Hypothesis		Supported
H_{11}	Voluntary tipping familiarity moderates the first stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.	Yes
H_{11a}	The indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping will be stronger when voluntary tipping familiarity is higher versus when voluntary tipping familiarity is lower.	Yes
H_{12}	Voluntary tipping familiarity moderates the first stage mediation and the minimum server wage moderates the second stage mediation of the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping.	Yes

The first statistical procedure conducted on the data collected in Study One, a two factor analysis of covariance (ANCOVA), revealed that tipping rate varies for different levels of the minimum server wage, resulting in support for hypothesis 1. Specifically, the mean tipping rate is higher when the minimum server wage is $2.13 per hour ($M$ = 13.73) versus when the minimum server wage is $16.00 per hour ($M$ = 12.28). There was also a significant difference in perceived fairness of the minimum server wage, $t(628) = -19.736$, $p < .001$, with subjects in the $16.00 per hour group reporting higher perceptions of fairness (M = 5.15, SD = 1.62) compared to the $2.13 per hour group ($M$ = 2.52, SD = 1.73). The significant main effect of the minimum server wage on tipping rate and significant difference in perceived fairness of the minimum server wage taken together, along with the application of equity theory, may suggest that guests utilize voluntary tipping as a mechanism to equalize a less fair minimum server wage. This conjuncture was tested in a simple mediation model with the minimum server wage as the independent variable, perceived fairness of the minimum server wage as the mediator, and tipping rate as the dependent variable. The mediating effect of perceived fairness of the minimum server wage was not significant and as a result, hypothesis 4 was not supported. Closer inspection of the simple mediation model revealed that the second stage mediation path

was not significant ($B = 0.302$, $SE = 0.212$, $p = .155$). This finding infers that the inverse relationship between the minimum server wage and tipping rate is not attributed to the equalization of lower levels of perceived fairness of the minimum server wage as a mediator and possibly suggests the presence of an unidentified intermediary variable.

The ANCOVA results revealed that tipping rate varies for different levels of service quality, providing support for hypothesis 2. However, the interaction effect of the minimum server wage and service quality on tipping rate was not significant and consequently, hypothesis 3 was not supported. A possible explanation for these results is that although guests tip more when the minimum server wage is low, they still expect servers to deliver a minimal level of service quality. The lack of support for hypothesis 3 does not necessarily negate the applicability of the equity theory input to output equation in explicating the influence of the minimum server wage on tipping rate. However, further research is required to investigate the proportionate weighting of the minimum server wage and tipping rate as inputs in relation to service quality as an output.

The series of interlinked tests of conditional indirect effects of service quality on tipping rate concluded with evidence of significant moderated moderated mediation. Although the first test determined that empathy was not a significant mediator, perceived fairness of voluntary tipping was found to mediate the effect of service quality on tipping rate. All of the coefficients in the simple mediation model of the effect of service quality on tipping rate via perceived fairness of voluntary tipping were positive and significant, resulting in support for hypothesis 5. The positive coefficients suggest that guests equate higher service quality with higher output and view voluntary tipping as a fair mechanism for increasing inputs to commensurate levels of output.

The next test of conditional indirect effects found a significant interaction between the minimum server wage and perceived fairness of voluntary tipping on tipping rate, providing support for hypothesis 6. As the slope of the linear relationship between perceived fairness of voluntary tipping and tipping rate was relatively weaker for a minimum server wage equal to $2.13 per hour compared to a minimum server wage equal to $16.00 per hour, there is evidence that the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping is stronger when the minimum server wage is higher. Consequently, hypothesis 6a was supported. Interestingly however, at lower levels of perceived fairness of voluntary tipping (i.e., at the mean and one standard deviation below the mean), tipping rate is higher when the minimum server wage is equal to $2.13 per hour versus when the minimum server wage is equal to $16.00 per hour. Conversely, at higher levels of perceived fairness of voluntary tipping (i.e., at one standard deviation above the mean), tipping rate is higher when the minimum server wage is equal to $16.00 per hour versus when the minimum server wage is equal to $2.13 per hour. This finding indicates that guests who perceive voluntary tipping as less fair, and accordingly would normally lower their tipping rate, have a tendency to increase their tipping rate when the minimum server wage is low, suggesting that a low minimum server wage displaces lower perceived fairness of voluntary tipping.

The third interlinked test of conditional indirect effects found a significant interaction between voluntary tipping familiarity and service quality on perceived fairness of voluntary tipping, resulting in support for hypothesis 11. As the slope of the linear relationship between voluntary tipping familiarity and perceived fairness of voluntary tipping was relatively stronger for high service quality than for low service quality, there is evidence that the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping is stronger when

voluntary tipping familiarity is higher. This finding provides support for hypothesis 11a and suggests that guests with higher levels of voluntary tipping familiarity will tip relatively more for higher service quality than for lower service quality as they perceive voluntary tipping as a fair mechanism to reward servers for delivering a superior dining experience.

The final test of conditional indirect effects found a significant index of moderated moderated mediation, resulting in support for hypothesis 12. When familiarity with voluntary tipping is moderate (i.e., mean value) or high (i.e., maximum value), there is a significant indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping that is stronger when both voluntary tipping familiarity and the minimum server wage are higher.

Study Two

The hypothesis testing results for Study Two are displayed in Table 18.

Table 18

Study Two Hypothesis Testing Results

Hypothesis		Supported
H_7	The effect of tipping policy on perceived fairness of tipping policy differs for different minimum server wage conditions. Specifically, when the minimum server wage rate is low, voluntary tipping is perceived to be fairer than compulsory tipping. When the minimum server wage is high, compulsory tipping is to be perceived fairer than voluntary tipping.	No
H_{10}	Perceived value varies for different tipping policies. Specifically, perceived value of voluntary tipping is higher than perceived value of compulsory tipping and perceived value of automatic service charge is higher than perceived value of service inclusive pricing.	Partially

The results of Study Two revealed limited evidence that the minimum server wage and tipping policy taken together influence guest perceptions of fairness of tipping policy. Although numerous customer attitudinal surveys have indicated a preference for servers to earn guaranteed income rather than unreliable tip income (Lynn & Withiam, 2008), the current research did not

find evidence that the minimum server wage affects perceived fairness of tipping policy. As it was expected that the minimum server wage would influence perceived fairness of tipping policy, these findings refute hypothesis 7. Lynn and Wang (2013) suggested that higher levels of empathy may lead to higher perceived fairness of compulsory tipping policies. However, Study Two did not find evidence for this relationship as empathy was not a significant covariate when testing for a difference in mean perceived fairness across different tipping policies. The results of Study Two confirmed Lynn and Wang's (2013) findings that voluntary tipping is perceived to be fairer than both automatic service charge and service inclusive pricing. Interestingly, there was no significant difference in perceived fairness between the two compulsory tipping policies.

Study Two results indicate that tipping policy affects perceptions of value. Specifically, voluntary tipping has higher perceived value compared to both automatic service charge and service inclusive pricing. As Lynn and Wang (2013) found that service inclusive pricing is perceived to be more expensive than automatic service charge, it was expected that automatic service charge would have higher perceptions of value. However, Study Two results did not find evidence for this relationship, accordingly hypothesis 10 was only partially supported.

Theoretical Implications

This dissertation contributes to the literature on restaurant tipping, the minimum server wage, and restaurant pricing. Equity theory and social norms theory are well established in hospitality literature as applicable theoretical frameworks to elucidate the ubiquitous tipping phenomenon in the restaurant industry. Utilizing social norms theory, tipping researchers have investigated an array of variables to explicate the rationale for restaurant guests to transfer voluntary consideration after services have been rendered, and equity theory to predict tipping rate using established antecedent variables. Although past research has identified that guests cite

low server wage as a reason to voluntarily adhere to the social norm of tipping (Azar, 2005a; Bodvarsson & Gibson, 1999; Lynn, 2006a), the influence of the minimum server wage on tipping rate has never been empirically tested. This dissertation contributes to the theoretical body of knowledge by introducing the minimum server wage as an additional input into the equity theory input to output equation of restaurant tipping.

In contrast with select past studies (Bodvarsson & Gibson, 1994; Lynn & Latané, 1984; May, 1980), this dissertation presents additional evidence, using experimental data, to further support service quality as a significant predictor of tipping rate (Bodvarsson, Luksetich, & McDermott, 2003; Lynn, 2001; Lynn & Graves, 1996). In addition, when controlling for voluntary tipping familiarity, the minimum server wage was found to affect tipping rate. Directly addressing Even and Macpherson's (2014) call for future research on the effect of higher server wages on tipping rate, this study found that tipping rate is lower when the minimum server wage is higher. In jurisdictions with tip credits, Allegretto and Nadler (2015) found that a 10% increase in the minimum server wage results in an increase of server income by 0.4% and called for further research into the composition of server pay. This dissertation adds to their findings by presenting evidence that the minimum server wage influences the tip component of server pay. Specifically, this current research found that tipping rate varies as a function of the minimum server wage.

Although limited evidence was gathered to support an interaction effect of the minimum server wage and service quality on tipping rate, results substantiate the moderating influence of the minimum server wage on the indirect effect of service quality on tipping rate. The current findings add to previous literature on relevant inputs and outputs of restaurant tipping (Lynn & Grassman, 1990; Lynn & Graves, 1996; McAdams & von Massow, 2017; Videbeck, 2004) by

determining that the minimum server wage is a significant input that should be included in the equity theory input to output ratio of tipping. While this current study focused on service quality as the focal output in the equity theory input to output equation, other outputs, such as psychological utility, have been identified in the literature (Azar, 2003). Evidence collected by this study provides a foundation for future research into the weighting of the minimum server wage in the equity equation relative to other inputs and outputs. Azar (2012) developed a series of economic equations that posited the existence of an equilibrium minimum server wage that determines whether a restaurant should implement a voluntary tipping policy or a compulsory tipping policy. Several variables used in his equations implicitly require service quality to directly influence tipping rate. The results of this dissertation's investigation of the relationships among the minimum server wage, service quality, and tipping rate provides supplemental support for the validity of Azar's (2012) series of equations.

This dissertation affords new insights into multiple variants of perceived fairness with respect to the tipping phenomenon. Distinctively, perceived fairness of the minimum server wage, voluntary tipping, automatic service charge, and service inclusive pricing were studied. This current study found evidence of a positive relationship between the minimum server wage and perceived fairness of the minimum server wage, extending previous research that a minimum wage increases fairness, in both monopsonistic labor markets (Card & Krueger, 1995) and general competitive labor markets when social costs are taken into consideration (Kaufman, 2009), to the restaurant server labor market. However, limited evidence was collected for the relationship between perceived fairness of the minimum server wage and other variables of interest, specifically tipping rate. The absence of a significant relationship between perceived fairness of the minimum server wage and tipping rate contrasted expectations as it was

anticipated that the effect of the minimum server wage on tipping rate would be transmitted through perceived fairness of the minimum server wage. Future research could consider investigating other intermediary variables between the minimum server wage and tipping rate.

Perceived fairness of voluntary tipping was found to have a pivotal mediating role on the effect of service quality on tipping rate. This finding suggests support for Lynn and Wang's (2013) speculation that guests perceive voluntary tipping fairer than compulsory tipping as voluntary tipping is a mechanism to reward servers for effort, thereby enforcing an equitable relationship as posited by equity theory. The novel finding that perceived fairness of voluntary tipping mediates the effect of service quality on tipping rate while perceived fairness of the minimum server wage does not significantly mediate the effect of the minimum server wage on tipping rate, illustrates the multi-dimensionality of fairness in guest tipping attitudes, perceptions, and behaviors. It is possible that an unidentified intermediary variable exists between perceived fairness of the minimum server wage and tipping rate, providing another interesting possibility for future research. Although voluntary tipping was found to be fairer than either compulsory tipping policy, confirming Lynn and Wang's (2013) findings, it is interesting that the minimum server wage was not found to have an effect on perceived fairness of tipping policy. Accordingly, in contrast with expectations, an interaction effect of tipping policy and the minimum server wage on perceived fairness of tipping policy was not significant. Since Lynn and Withiam (2008) found that guests have a preference for servers to earn constant income, rather than tip income, it was posited that when the minimum server wage is high, guests would perceive compulsory tipping to be fairer than voluntary tipping, as servers would be earning a constant higher income rather than income composed of a constant lower direct wage and fluctuating tip income.

Experimental data from Study Two revealed that perceptions of value differs across tipping policies and that voluntary tipping, a manifest form of partition pricing, has the highest level of perceived value overall. Congruent with Lynn and Wang's (2013) finding that voluntary tipping is perceived less expensive than both automatic service charge and service inclusive pricing, study results revealed that voluntary tipping has higher levels of perceived value than compulsory tipping. Hypothesis 10 predicted that, due to the transparent nature of automatic service charge versus the opaque nature of service inclusive pricing, perceived value of automatic service charge is higher than perceived value of service inclusive pricing. However, Study Two results did not provide support for hypothesis 10. It appears that the presentation of partition pricing versus bundle pricing or the discretionary nature versus the mandatory nature of a tipping policy, rather than degree of transparency has a stronger influence on guest perceptions of value. This result provides new evidence that the elective nature of voluntary tipping may amplify guests' tendency to make insufficient upward adjustments for surcharges when anchoring and adjusting (Morwitz, Greenleaf, & Johnson, 1998). Interestingly, empathy was a significant covariate in the test of mean differences, suggesting that guests consider server working conditions when evaluating the value of restaurant purchases.

Finally, this dissertation found that the effect of service quality on perceived fairness of voluntary tipping varies as a function of familiarity with voluntary tipping. This result adds to extant restaurant pricing literature by presenting tipping, as a restaurant pricing mechanism, evidence to further support the influence of pricing familiarity on perceived price fairness (Kimes, 2008; McGuire & Kimes, 2006).

Practical Implications

Several valuable practical implications have emerged from the results of this dissertation. Although the influence of the minimum server wage on tipping behavior and perceptions was examined from the perspective of guests, insights were found for various restaurant industry stakeholders.

It is recommended that public policy makers acknowledge the positive association between the minimum server wage and guest perceptions of fairness of the minimum server wage. Study results indicate that the current lowest minimum server wage of $2.13 per hour, which has prevailed since 1991 (Allegretto & Nadler, 2015; Jones, 2016; US Department of Labor, 2019b), is perceived to be less fair than the current highest minimum server wage of $16.00 per hour. Tipping is an available means for guests to address low levels of perceived fairness, and subsequently increase hourly server income above the minimum server wage. However, tipping is either voluntary and conditional on guest behavior, or compulsory with parameters established by restaurants. Accordingly, tip income is uncertain, volatile, and fluctuates due to conditions outside servers' control. Policy makers, however, are in a position to reduce server income uncertainty by regulating the minimum server wage and are advised to consider guest perceptions of fairness of the minimum server wage, as public opinion, in the determination of the minimum server wage.

Although service quality was not the principal variable of interest, this research provides further empirical evidence of a monotonically increasing function between service quality and tipping rate. As servers have a high degree of control over service quality, to maximize tip income, servers should strive to deliver the highest level of service quality possible irrespective of all other controllable and non-controllable factors. Notwithstanding the influence of

intermediary variables, such as the minimum server wage, service quality is a predominant antecedent to tip income.

In contrast, restaurants need to be cognizant of intermediary variables that mediate and moderate the effect of service quality on tipping rate. Despite a positive direct association between service quality and tipping rate, restaurants are advised against using server tips as an explicit measurement of service quality, and consequently implicit metric of server performance. As this research revealed, a high tipping rate may not necessarily result from high service quality, but rather ensue from the effect of intermediary variables, such as a low minimum server wage, lower perceptions of fairness, or higher familiarity with tipping. As the restaurant dining experience is composed of two primary value offerings, tangible food product and intangible service delivery, maintaining service quality at a prescribed standard is imperative to a restaurant's success. Although tips are an incentive and partial indicator of server performance, managers are advised to incorporate supplemental employee incentives and performance evaluation measures into their operations. As tips are insufficient to fully evaluate service quality, it is recommended that restaurant managers consider incorporating employee motivational practices commonly utilized in other hospitality businesses, such as integrated resorts and cruise ships, where guest-facing employees do not regularly receive voluntary tips. Potential incentives and appraisals include recognizing a high performing server as employee of the month; tracking service failure scores and celebrating positive results with servers during pre-shift meetings; and encouraging guests to identify servers who have provided an outstanding dining experience.

Study Two revealed implications for restaurants pertaining to different tipping policies. Specifically, perceived fairness of tipping policy and perceived value are higher with voluntary

tipping compared to automatic service charge and service inclusive pricing. Possible reasons for these findings include: a lack of understanding of how servers ultimately receive a compulsory tip; concern that service quality will decline as servers are guaranteed a tip regardless of exerted effort; or concern that the compulsory tip amount is insufficient and incommensurate with the level of service quality delivered. Restaurants operating with a compulsory tipping policy can mitigate against these concerns, increase perceived fairness, and enhance perceived value by clearly informing guests on the following: how servers directly benefit from the compulsory tip, either through a direct tip out or a higher hourly wage; management seeks to preserve service quality and that service failures will be addressed with appropriate service recovery procedures, such as removal of a compulsory tip from the bill; and permitting additional voluntary tipping at guests' sole discretion. Enhanced transparency of automatic service charge and service inclusive pricing will increase guest perceptions of fairness and familiarity with these policies while reduce differences in perceived value relative to ubiquitous traditional voluntary tipping.

Limitations and Future Research

Characteristic of all research, limitations exist in this study that should be addressed in future research. This dissertation composed of two online scenario based experiments requiring respondents to read a suppositional dining situation and to hypothetically respond to survey questions. Notwithstanding pretesting, manipulation checks, and realism checks, results and findings may not generalize beyond the context of this dissertation. Future studies may consider surveying actual restaurant guests immediately after a dining experience.

Future research may seek to strengthen certain manipulations to capture true effects on dependent variables. In particular, although the tipping policy manipulation check afforded significant differences across treatments, only 71% of overall respondents were able to correctly

identify their randomly assigned tipping policy. Lynn and Wang (2013) attained the same accuracy ratio in their study of tipping policy on perceived expensiveness. Despite strengthening the tipping policy descriptions after the pilot test, it appears that many respondents did not read the descriptions in sufficient detail or did not fully understand their respective tipping policy. Future tipping policy experiments may consider describing each policy in greater detail or incorporate more stringent participant qualifications, such as a minimum restaurant patronage frequency or a minimum level of familiarity with the three prevalent tipping policies. As experimental research strives to maximize internal validity (Campbell & Stanley, 1966), less focus is placed on external generalizability. Ultimately, the two experiments conducted for this dissertation were able to achieve the underlying research objective of examining the relationship between the minimum server wage and auxiliary variables of interest.

Despite the considerable number of past studies that have been conducted on restaurant tipping, this line of research offers extensive opportunities to deepen empirical understanding of this interesting phenomenon. Study One of this dissertation focused exclusively on voluntary tipping, and specifically tipping rate as the final consequent variable. Future studies of the minimum server wage as an antecedent variable under a voluntary tipping policy could examine other consequent variables, such as guest satisfaction, customer loyalty, and revisit intention. The relationship between the minimum server wage and guilt is another potential interesting association that could be explored. For example, does the minimum server wage influence feelings of guilt in guests who violate the social norm of tipping? Building on the research design of Study One, it would be worthwhile to add menu price as an additional factor to determine if tipping rate would significantly differ when guests are presented with increased menu prices resulting from a higher minimum server wage. This follow-up study could be

conducted as a within-subjects factorial design by presenting respondents with an initial menu showing base line menu item prices in combination with a low minimum server wage in a pre-treatment condition. Next, a second menu with inflated menu item prices rationalized by a high minimum server wage could be presented to subjects in a post-treatment condition.

Respondents assigned to the two compulsory tipping treatments in Study Two were informed that additional voluntary tipping was not permitted and that the compulsory tip amount would be pass directly to the server as a tip out. However, in practice, some restaurants allow guests to supplement a compulsory tip with an additional voluntary tip, and some restaurants do not pass compulsory tips directly to servers as a tip out, but rather remunerate servers at a higher direct hourly wage. The effects arising from these nuanced variations of compulsory tipping could be investigated in future research. Finally, this current study examined guest perceptions and attitudes of external tipping policies in isolation. It would be interesting to explore guest perceptions of internal tipping policies, such as tip pooling or tip sharing among restaurant employees, in combination with external tipping policies.

Summary

This chapter discussed research findings, identified theoretical and practical implications, and presented conclusions. In conjunction with established antecedents of tipping, the effect of the minimum server wage on dependent variables of voluntary tipping rate and perceived fairness of tipping policy were empirically tested for the first time. The application of equity theory provided unique insights into the interrelationships among influential variables affecting the complex phenomenon of restaurant tipping. Research results indicate that the minimum server wage and voluntary tipping familiarity have moderating roles on the indirect effect of service quality on tipping rate via perceived fairness of voluntary tipping. In addition, voluntary

tipping has higher perceived fairness and perceived value than automatic service charge and service inclusive pricing. The findings presented in this dissertation provide new information to researchers and industry stakeholders on the effects of the minimum server wage on guest tipping behavior and server income.

APPENDIX A

IRB APPROVAL

UNLV Social/Behavioral IRB - Exempt Review Exempt Notice

DATE:	June 7, 2019
TO:	Carola Raab
FROM:	Office of Research Integrity - Human Subjects
PROTOCOL TITLE:	[1437344-2] The Effect of the Minimum Server Wage on Restaurant Guest Tipping Behavior and Perceptions
ACTION:	DETERMINATION OF EXEMPT STATUS
EXEMPT DATE:	June 7, 2019
REVIEW CATEGORY:	Exemption category #2

Thank you for your submission of Revision materials for this protocol. This memorandum is notification that the protocol referenced above has been reviewed as indicated in Federal regulatory statutes 45CFR46.101(b) and deemed exempt.

We will retain a copy of this correspondence with our records.

PLEASE NOTE:
Upon final determination of exempt status, the research team is responsible for conducting the research as stated in the exempt application reviewed by the ORI - HS and/or the IRB which shall include using the most recently submitted Informed Consent/Assent Forms (Information Sheet) and recruitment materials.

If your project involves paying research participants, it is recommended to contact the ORI Program Coordinator at (702) 895-2794 to ensure compliance with the Policy for Incentives for Human Research Subjects.

Any changes to the application may cause this protocol to require a different level of IRB review. Should any changes need to be made, please submit a Modification Form. When the above-referenced protocol has been completed, please submit a Continuing Review/Progress Completion report to notify ORI - HS of its closure.
If you have questions, please contact the Office of Research Integrity - Human Subjects at IRB@unlv.edu or call 702-895-2794. Please include your protocol title and IRBNet ID in all correspondence.

Office of Research Integrity - Human Subjects
4505 Maryland Parkway Box 451047 Las Vegas, Nevada 89154-1047
(702) 895-2794 FAX: (702) 895-0805 IRB@unlv.edu

APPENDIX B

INFORMED CONSENT FORM

Title of Study

The Effect of the Minimum Server Wage on Restaurant Guest Tipping Behavior and Perceptions.

Investigators

Carola Raab, Ph.D., Harrah College of Hospitality, University of Nevada, Las Vegas and Jason Tang, Harrah College of Hospitality, University of Nevada, Las Vegas.

If you have any questions or concerns about the study, you may contact Jason Tang at (702) 895-5438 or tangj7@unlv.nevada.edu or Dr. Carola Raab at (702) 895-5406 or carola.raab@unlv.edu.

For questions regarding the rights of research subjects, complaints or comments regarding the manner in which this study is being conducted, you may contact the UNLV Office of Research Integrity – Human Subjects at (702) 895-2794, toll free at 1-888-581-2794 or via email at IRB@unlv.edu.

Purpose of the Study

You have been invited to participate in a research study conducted by faculty at the University of Nevada, Las Vegas. The purpose of this study is to evaluate restaurant guest tipping behavior and perceptions.

You are being asked to participate in the study because you have dined in a restaurant at least once in the past month. If you agree to participate in this study, you will be asked to complete an online survey. There are no right or wrong answers in this survey, just your opinions. There is no financial cost to you to participate in this study. The study should take about 15 minutes to complete. You will not be compensated for your time by the University of Nevada, Las Vegas.

Risks of Participation

There are risks involved in all research studies. This study may include minimal risks. In this study, you may feel uncomfortable answering some questions or be unable to provide an answer. We do not anticipate any further risks from participating in this survey.

Confidentiality

All information gathered in this study will be kept as confidential as possible. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for three (3) years after the completion of this study. After the storage time, the information gathered will be destroyed

Voluntary Participation

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with UNLV. You are encouraged to ask questions about this study at the beginning or at any time during the research study.

Participant Consent:

By checking the box below, I indicate that I have read the above information and agree to participate in this study. I have been able to ask questions about the research study. I am at least 18 years of age.

Please click below to indicate your agreement.

- ❍ I agree
- ❍ I do not agree

APPENDIX C

STUDY ONE QUESTIONNAIRE

A. Informed consent

B. Screener questions

1. What is your age?
   - ❍ Under 18
   - ❍ 18 – 20
   - ❍ 21 – 30
   - ❍ 31 – 40
   - ❍ 41 – 50
   - ❍ 51 – 60
   - ❍ 61 – 70
   - ❍ Over 70

2. Have you eaten in a restaurant in the past month?
   - ❍ Yes
   - ❍ No

C. Tipping familiarity measures

INSTRUCTIONS
Please read all of the following information carefully and answer ALL of the questions.

Thank you for your participation!

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
Tipping in restaurants is usual	❍	❍	❍	❍	❍	❍	❍
Tipping in restaurants is typical	❍	❍	❍	❍	❍	❍	❍

2. An automatic service charge is a tip that a restaurant adds to the bill. The service charge is a percent of the bill total. Additional tipping is not allowed.

   Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
Automatic service charges in restaurants are usual	❍	❍	❍	❍	❍	❍	❍
Automatic service charges in restaurants are typical	❍	❍	❍	❍	❍	❍	❍

3. A restaurant with all-inclusive pricing does not allow tipping as menu prices have already been increased so that the restaurant can pay higher server wages.

   Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with all-inclusive pricing in restaurants	❍	❍	❍	❍	❍	❍	❍
All-inclusive pricing in restaurants is usual	❍	❍	❍	❍	❍	❍	❍
All-inclusive pricing in restaurants is typical	❍	❍	❍	❍	❍	❍	❍

D. Experiment

1. Minimum server wage condition - *randomly displayed*

   i. $2.13 per hour

   Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour in this town.

   ii. $16.00 per hour

   Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $16.00 per hour in this town.

2. Dining scenario

You walk into the restaurant. The hostess sees you walk in and greets you. You tell her that you are dining by yourself.

The hostess seats you at a table and gives you a menu.

3. Service quality condition - *randomly displayed*

   i. Low service quality condition

   Your server sees you sit down but does not immediately greet you. A few minutes after you finish reading the menu, your server greets you and asks for your order. You ask her about the ingredients in the soup of the day and the daily special, but she is unable to answer your questions. You decide not to order the soup or the daily special. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs.

   The server brings you the iced tea and chicken wings. After you finish the chicken wings, the server brings out the spaghetti & meatballs but does not take away the empty chicken wings plate. The food tastes as you expected but you need an extra napkin. Your server does not return so after waiting a few minutes, you walk over to the hostess to get a napkin.

   ii. High service quality condition

   Your server sees you sit down and immediately greets you. After you finish reading the menu, your server returns and asks for your order. You ask her about the ingredients in the soup of the day and the daily special. She is able to answer all of your questions. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs.

The server brings you the iced tea and chicken wings. After you finish the chicken wings, the server brings out the spaghetti & meatballs and takes away the empty chicken wings plate. The food tastes as you expected. Shortly after, the server returns and asks if you need anything else. You ask for another napkin and she immediately brings you one.

4. Bill stimulus and tipping scenario

After you finish your meal, the server returns with your bill and takes away all the empty dishes.

Golden Mountain Restaurant

Iced Tea	$ 3.28
Chicken Wings	$ 5.39
Spaghetti & Meatballs	$ 12.98
Pre-tax Subtotal	$ 21.65
Tax	$ 1.10
Total	**$ 22.75**

Thank you!

You give the server a credit card and she returns with a mobile credit card terminal showing the following:

Thank you for dining at Golden Mountain Restaurant

Your bill total is $22.75

Would you like to add a tip?
- ❍ Yes, add dollar ($) tip
- ❍ Yes, add percent (%) of pre-tax subtotal tip
- ❍ Yes, add percent (%) of bill total tip
- ❍ No, do not add tip

E. Perceived fairness of the minimum server wage measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is fair	❍	❍	❍	❍	❍	❍	❍
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is acceptable	❍	❍	❍	❍	❍	❍	❍
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is reasonable	❍	❍	❍	❍	❍	❍	❍

F. Perceived fairness of voluntary tipping fairness measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I think tipping servers is fair	❍	❍	❍	❍	❍	❍	❍
I think tipping servers is acceptable	❍	❍	❍	❍	❍	❍	❍
I think tipping servers is reasonable	❍	❍	❍	❍	❍	❍	❍

G. Tipping behavior measures

1. In this scenario, would you have tipped differently if you were dining with other people instead of by yourself?
   - ❍ No
   - ❍ Yes, I would have tipped more
   - ❍ Yes, I would have tipped less

H. Manipulation Checks

1. I think that servers at this restaurant are paid a high hourly wage.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

2. How would you rate the service quality at this restaurant?

Very low	1	2	3	4	5	6	7	Very high

1. How realistic is this restaurant scenario?

Completely unrealistic	1	2	3	4	5	6	7	Completely realistic

I. Empathy measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I tip to reward good service	❍	❍	❍	❍	❍	❍	❍
I tip to help servers make a living	❍	❍	❍	❍	❍	❍	❍
I tip in order to feel satisfaction from doing what is right	❍	❍	❍	❍	❍	❍	❍
I tip in order to express my generosity	❍	❍	❍	❍	❍	❍	❍
I tip in order to support the custom of tipping	❍	❍	❍	❍	❍	❍	❍

J. Minimum server wage attitudes

1. Do you know your local minimum server wage?
   ❍ Yes
   ❍ No

2. What is your zip code?

3. What is your local minimum server wage?

4. What do you think the minimum server wage should be?

K. Tipping policy attitudes

An automatic service charge is a tip that a restaurant adds to the bill. The service charge is a percent of the bill total. Additional tipping is not allowed.

A restaurant with all-inclusive pricing does not allow tipping as menu prices have already been increased so that the restaurant can pay higher server wages.

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I prefer tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer all-inclusive pricing in restaurants	❍	❍	❍	❍	❍	❍	❍

2. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Since restaurants pay servers the minimum server wage, I prefer tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
Since restaurants pay servers the minimum server wage, I prefer automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer all-inclusive pricing in restaurants so that restaurants can pay servers higher wages	❍	❍	❍	❍	❍	❍	❍

L. Demographics measures

1. What is your gender?
   - ❍ Male
   - ❍ Female

2. What is your highest education level?
   - ❍ Some high school
   - ❍ High school
   - ❍ Associate degree
   - ❍ Bachelor degree
   - ❍ Graduate degree

3. What is your annual household income?
   - ❍ Under $25,000
   - ❍ $25,000 to $49,999
   - ❍ $50,000 to $74,999
   - ❍ $75,000 to $99,999
   - ❍ $100,000 and over

4. What is your employment status?
   - ❍ Full-time
   - ❍ Part-time
   - ❍ Retired
   - ❍ Unemployed
   - ❍ Student
   - ❍ Self employed

M. Restaurant dining frequency measure

1. On average, how many times a month do you dine out at restaurants?

N. Restaurant work experience measure

1. I have restaurant work experience
   - ❍ Yes
   - ❍ No

2. I have restaurant server work experience
   - ❍ Yes
   - ❍ No

APPENDIX D
STUDY TWO QUESTIONNAIRE

B. Informed consent

C. Screener questions

1. What is your age?
   - ❍ Under 18
   - ❍ 18 – 20
   - ❍ 21 – 30
   - ❍ 31 – 40
   - ❍ 41 – 50
   - ❍ 51 – 60
   - ❍ 61 – 70
   - ❍ Over 70

2. Have you eaten in a restaurant in the past month?
   - ❍ Yes
   - ❍ No

D. Tipping familiarity measures

INSTRUCTIONS
Please read all of the following information carefully and answer ALL of the questions.

Thank you for your participation!

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
Tipping in restaurants is usual	❍	❍	❍	❍	❍	❍	❍
Tipping in restaurants is typical	❍	❍	❍	❍	❍	❍	❍

2. An automatic service charge is a tip that a restaurant adds to the bill. The service charge is a percent of the bill total. Additional tipping is not allowed.

   Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
Automatic service charges in restaurants are usual	❍	❍	❍	❍	❍	❍	❍
Automatic service charges in restaurants are typical	❍	❍	❍	❍	❍	❍	❍

3. A restaurant with all-inclusive pricing does not allow tipping as menu prices have already been increased so that the restaurant can pay higher server wages.

   Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I am familiar with all-inclusive pricing in restaurants	❍	❍	❍	❍	❍	❍	❍
All-inclusive pricing in restaurants is usual	❍	❍	❍	❍	❍	❍	❍
All-inclusive pricing in restaurants is typical	❍	❍	❍	❍	❍	❍	❍

E. Experiment

1. Treatment - *randomly displayed*

   i. $2.13 per hour x Voluntary tipping policy

   Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour in this town.

ii. $16.00 per hour x Voluntary tipping policy

Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $16.00 per hour in this town.

iii. $2.13 per hour x Automatic service charge

Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour in this town.

The restaurant has an automatic 15% service charge that will be added to your bill. The service charge will be passed to servers as a tip. Additional tipping is not allowed.

iv. $16.00 per hour x Automatic service charge

Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $16.00 per hour in this town.

The restaurant has an automatic 15% service charge that will be added to your bill. The service charge will be passed to servers as a tip. Additional tipping is not allowed.

v. $2.13 per hour x Service inclusive pricing

Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $2.13 per hour in this town.

The restaurant has an all-inclusive pricing policy. Menu prices have been increased by 15% so that the restaurant can pay servers a tip on top of the minimum server wage. Additional tipping is not allowed.

vi. $16.00 per hour x Service inclusive pricing

Imagine that you are going for dinner at a new restaurant in town. This is your first visit to this restaurant. The restaurant pays its servers the minimum server wage, which is $16.00 per hour in this town.

The restaurant has an all-inclusive pricing policy. Menu prices have been increased by 15% so that the restaurant can pay servers a tip on top of the minimum server wage. Additional tipping is not allowed.

2. Restaurant stimulus

3. Menu stimulus

You walk into the restaurant. The hostess sees you walk in and immediately greets you. You tell her that you are dining by yourself. The hostess seats you at a table and gives you the menu.

i. Voluntary tipping condition

Golden Mountain Restaurant

Drinks

Soft Drinks	$ 2.98
Iced Tea	$ 3.28
Fruit Juice	$ 3.48

Appetizers

Soup of the Day	$ 4.49
Chicken Wings	$ 5.39
Caprese Salad	$ 5.89

Entrées

Margherita Pizza	$ 11.98
Spaghetti & Meatballs	$ 12.98
Chicken Penne	$ 13.48

Ask about our daily special

Tipping 15% of the bill is customary

ii. Automatic service charge condition

Golden Mountain Restaurant

Drinks

Soft Drinks	$ 2.98
Iced Tea	$ 3.28
Fruit Juice	$ 3.48

Appetizers

Soup of the Day	$ 4.49
Chicken Wings	$ 5.39
Caprese Salad	$ 5.89

Entrées

Margherita Pizza	$ 11.98
Spaghetti & Meatballs	$ 12.98
Chicken Penne	$ 13.48

Ask about our daily special

No tipping
A 15% service charge will be added to the bill

iii. Service inclusive condition

Golden Mountain Restaurant

Drinks

Soft Drinks	$ 3.43
Iced Tea	$ 3.77
Fruit Juice	$ 4.00

Appetizers

Soup of the Day	$ 5.16
Chicken Wings	$ 6.20
Caprese Salad	$ 6.77

Entrées

Margherita Pizza	$ 13.78
Spaghetti & Meatballs	$ 14.93
Chicken Penne	$ 15.50

Ask about our daily special

No tipping
Servers will receive 15% of the bill as a tip

4. Bill stimulus

Your server sees you sit down and immediately greets you. After you finish reading the menu, your server returns and asks for your order. You order an iced tea, chicken wings as an appetizer, and the spaghetti & meatballs.

The server brings you the iced tea and chicken wings. After you finish the chicken wings, the server brings out the spaghetti & meatballs and takes away the empty chicken wings plate. The food tastes as you expected.

After you finish your meal, the server returns with your bill and takes away all the empty dishes.

i. Voluntary tipping condition

Golden Mountain Restaurant

Iced Tea	$	3.28
Chicken Wings	$	5.39
Spaghetti & Meatballs	$	12.98
Pre-tax Subtotal	$	21.65
Tax	$	1.10
Total	**$**	**22.75**

Thank you!

Tipping 15% of the bill is customary

ii. Automatic service charge condition

Golden Mountain Restaurant

Iced Tea	$	3.28
Chicken Wings	$	5.39
Spaghetti & Meatballs	$	12.98
Pre-tax Subtotal	$	21.65
Tax	$	1.10
15% Service Charge	$	3.25
Total	**$**	**26.00**

Thank you!

No tipping
Servers will receive 15% service charge

iii. Service inclusive condition

Golden Mountain Restaurant

Iced Tea	$	3.77
Chicken Wings	$	6.20
Spaghetti & Meatballs	$	14.93
Pre-tax Subtotal	$	24.90
Tax	$	1.27
Total	**$**	**26.17**

Thank you!

No tipping
Servers will receive 15% of the bill as a tip

F. Perceived fairness of tipping policy measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I think tipping servers (automatic service charges) (all-inclusive pricing) is fair	❍	❍	❍	❍	❍	❍	❍
I think tipping servers (automatic service charges) (all-inclusive pricing) is acceptable	❍	❍	❍	❍	❍	❍	❍
I think tipping servers (automatic service charges) (all-inclusive pricing) is reasonable	❍	❍	❍	❍	❍	❍	❍

G. Perceived fairness of minimum server wage measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is fair	❍	❍	❍	❍	❍	❍	❍
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is acceptable	❍	❍	❍	❍	❍	❍	❍
I think that the $2.13 per hour ($16.00 per hour) minimum server wage is reasonable	❍	❍	❍	❍	❍	❍	❍

H. Perceived value measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
This restaurant offered good value for the price	❍	❍	❍	❍	❍	❍	❍
The overall value of dining at this restaurant was high	❍	❍	❍	❍	❍	❍	❍
This dining experience was worth the money	❍	❍	❍	❍	❍	❍	❍

I. Manipulation Checks

1. I think that servers at this restaurant are paid a high hourly wage.

Strongly disagree	1	2	3	4	5	6	7	Strongly agree

2. Which of the following best describes this restaurant's tipping policy?

   ❍ Tipping
   ❍ Automatic service charge
   ❍ All-inclusive pricing

3. How realistic is this restaurant scenario?

Completely unrealistic	1	2	3	4	5	6	7	Completely realistic

J. Empathy measures

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I tip to reward good service	❍	❍	❍	❍	❍	❍	❍
I tip to help servers make a living	❍	❍	❍	❍	❍	❍	❍
I tip in order to feel satisfaction from doing what is right	❍	❍	❍	❍	❍	❍	❍
I tip in order to express my generosity	❍	❍	❍	❍	❍	❍	❍
I tip in order to support the custom of tipping	❍	❍	❍	❍	❍	❍	❍

K. Minimum server wage attitudes

1. Do you know your local minimum server wage?
   ❍ Yes
   ❍ No

2. What is your zip code?

3. What is your local minimum server wage?

4. What do you think the minimum server wage should be?

L. Tipping policy attitudes

An automatic service charge is a tip that a restaurant adds to the bill. The service charge is a percent of the bill total. Additional tipping is not allowed.

A restaurant with all-inclusive pricing does not allow tipping as menu prices have already been increased so that the restaurant can pay higher server wages.

1. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
I prefer tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer all-inclusive pricing in restaurants	❍	❍	❍	❍	❍	❍	❍

2. Please indicate how much you agree or disagree with the following statements:

	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree
Since restaurants pay servers the minimum server wage, I prefer tipping in restaurants	❍	❍	❍	❍	❍	❍	❍
Since restaurants pay servers the minimum server wage, I prefer automatic service charges in restaurants	❍	❍	❍	❍	❍	❍	❍
I prefer all-inclusive pricing in restaurants so that restaurants can pay servers higher wages	❍	❍	❍	❍	❍	❍	❍

M. Demographics measures

1. What is your gender?
   - ❍ Male
   - ❍ Female

2. What is your highest education level?
   - ❍ Some high school
   - ❍ High school
   - ❍ Associate degree
   - ❍ Bachelor degree
   - ❍ Graduate degree

3. What is your annual household income?
   - ❍ Under $25,000
   - ❍ $25,000 to $49,999
   - ❍ $50,000 to $74,999
   - ❍ $75,000 to $99,999
   - ❍ $100,000 and over

4. What is your employment status?
   - ❍ Full-time
   - ❍ Part-time
   - ❍ Retired
   - ❍ Unemployed
   - ❍ Student
   - ❍ Self employed

N. Restaurant dining frequency measure

1. On average, how many times a month do you dine out at restaurants?

O. Restaurant work experience measure

1. I have restaurant work experience
   - ❍ Yes
   - ❍ No

2. I have restaurant server work experience
   - ❍ Yes
   - ❍ No

REFERENCES

Aaronson, D., French, E., & MacDonald, J. (2008). The minimum wage, restaurant prices, and labor market structure. *Journal of Human Resources*, 43(3), 688-720.

Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267-299.

Aiken, L.S., & West, S.G. (1991). *Multiple regression: Testing and interpreting interactions*. Thousand Oaks, CA: Sage.

Alba, J. W., & Hutchinson, J. W. (1987). Dimensions of consumer expertise. *Journal of Consumer Research*, 13(4), 411-454.

Allegretto, S., & Nadler, C. (2015). Tipped wage effects on earnings and employment in full-service restaurants. *Industrial Relations: A Journal of Economy and Society*, 54(4), 622-647.

Allegretto, S., & Reich, M. (2018). Are local minimum wages absorbed by price increases? Estimates from internet-based restaurant menus. *Industrial Relations & Labor Review*, 71(1), 35-63.

Andaleeb, S.S., & Conway, C. (2006). Customer satisfaction in the restaurant industry: An examination of the transaction-specific model. *Journal of Services Marketing*, 20(1), 3-11.

Anderson, J. E., & Bodvarsson, Ö. B. (2005). Do higher tipped minimum wages boost server pay? *Applied Economics Letters*, 12(7), 391-393.

Archer, M. S. (2013). Homo Economicus, Homo sociologicus and Homo sentiens. In M.S. Archer & J. Q. Tritter (Eds.), *Rational Choice Theory* (pp. 46-66). London, England: Routledge.

Aronson, E., Wilson, T.D. and Akert, R.M. (1999). Social Psychology, Addison-Wesley Longman, New York, NY

Arora, R., & Singer, J. (2006). Customer satisfaction and value as drivers of business success for fine dining restaurants. *Services Marketing Quarterly*, 28(1), 89-102.

Arrow, K. (1970). Political and economic evaluation of social effects and externalities. *National Bureau of Economic Research*, 1-30

Averill, J. R. (1973). Personal control over aversive stimuli and its relationship to stress. *Psychological Bulletin*, 80(4), 286

Azar, O. H. (2003). The implications of tipping for economics and management. *International Journal of Social Economics,* 30(10), 1084-1094.

Azar, O. H. (2004a). The history of tipping—from sixteenth-century England to United States in the 1910s. *The Journal of Socio-Economics*, 33(6), 745-764.

Azar, O. H. (2004b). What sustains social norms and how they evolve? The case of tipping. *Journal of Economic Behavior & Organization*, 54(1), 49-64.

Azar, O. H. (2005a). The social norm of tipping: Does it improve social welfare? *Journal of Economics*, 85(2), 141-173.

Azar, O. H. (2005b). Who do we tip and why? An empirical investigation. *Applied Economics*, 37(16), 1871-1879.

Azar, O. H. (2007a). The social norm of tipping: A review. *Journal of Applied Social Psychology*, 37(2), 380–402.

Azar, O. H. (2007b). Why pay extra? Tipping and the importance of social norms and feelings in economic theory. *The Journal of Socio-Economics*, 36(2), 250-265.

Azar, O. H. (2007c). Do people tip strategically, to improve future service? Theory and evidence. *Canadian Journal of Economics/Revue canadienne d'économique*, 40(2), 515-527.

Azar, O. H. (2009). Incentives and service quality in the restaurant industry: The tipping–service puzzle. *Applied Economics*, 41(15), 1917-1927.

Azar, O. H. (2010). Tipping motivations and behavior in the US and Israel. *Journal of Applied Social Psychology*, 40(2), 421-457.

Azar, O. H. (2011). Business strategy and the social norm of tipping. *Journal of Economic Psychology*, 32(3), 515-525.

Azar, O. H. (2012). The effect of the minimum wage for tipped workers on firm strategy, employees and social welfare. *Labour Economics*, 19(5), 748-755.

Azar, O. H., Yosef, S., & Bar-Eli, M. (2015). Restaurant tipping in a field experiment: How do customers tip when they receive too much change? *Journal of Economic Psychology*, 50, 13-21.

Baker, P.C. (2018, April 13). How much is an hour worth? The war over the minimum wage. *The Guardian*. Retrieved from https://www.theguardian.com/news/2018/apr/13/how-much-is-an-hour-worth-the-war-over-the-minimum-wage

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173-1182.

Basker, E., & Khan, M. T. (2016). Does the minimum wage bite into fast-food prices? *Journal of Labor Research*, 37(2), 129-148.

Bernstein, J., & Schmitt, J. (1998). *Making work pay. The impact of the 1996-97 minimum wage increase.* Retrieved from Economic Policy Institute website: https://www.epi.org/publication/studies_stmwp/

Bicchieri, C. (2006). *The grammar of society: The nature and dynamics of social norms.* New York, NY: Cambridge University Press.

Bills, D. B. (1999). Labor market information and selection in a local restaurant industry: The tenuous balance between rewards, commitments, and costs. *Sociological Forum,* 14(4), 583-607.

Bitner, M. J. (1990). Evaluating service encounters: The effects of physical surroundings and employee responses. *Journal of Marketing*, 54(2), 69-82.

Blay, A. D., Gooden, E. S., Mellon, M. J., & Stevens, D. E. (2018). The usefulness of social norm theory in empirical business ethics research: A review and suggestions for future research. *Journal of Business Ethics*, 152(1), 191-206.

Bodvarsson, Ö. B., & Gibson, W. A. (1994). Gratuities and customer appraisal of service: Evidence from Minnesota restaurants. *The Journal of Socio-Economics*, 23(3), 287-302.

Bodvarsson, Ö. B., & Gibson, W. A. (1997). Economics and restaurant gratuities: Determining tip rates. *American Journal of Economics and Sociology*, 56(2), 187-203.

Bodvarsson, Ö. B., & Gibson, W. A. (1999). An economic approach to tips and service quality: Results of a survey. *The Social Science Journal*, 36(1), 137-147.

Bodvarsson, Ö. B., Luksetich, W. A., & McDermott, S. (2003). Why do diners tip: Rule-of-thumb or valuation of service? *Applied Economics*, 35(15), 1659-1665.

Bolton, L. E., Warlop, L., & Alba, J. W. (2003). Consumer perceptions of price (un)fairness. *Journal of Consumer Research*, 29(4), 474-491.

Bosse, D. A., & Phillips, R. A. (2016). Agency theory and bounded self-interest. *Academy of Management Review*, 41(2), 276-297.

Brewster, Z. W. (2013). The effects of restaurant servers' perceptions of customers' tipping behaviors on service discrimination. *International Journal of Hospitality Management*, 32, 228-236.

Brewster, Z. W. (2015). Perceptions of intergroup tipping differences, discriminatory service, and tip earnings among restaurant servers. *International Journal of Hospitality Management*, 46, 15-25.

Broome, J. (1991). Utility. *Economics & Philosophy*, 7(1), 1-12.

Brown, N. E., & Rolle, S. A. (1991). Tips versus service charges: The Iowa scene. *Cornell Hotel and Restaurant Administration Quarterly*, 32(1), 74-81.

Bujisic, M., Hutchinson, J., & Parsa, H. G. (2014). The effects of restaurant quality attributes on customer behavioral intentions. *International Journal of Contemporary Hospitality Management*, 26(8), 1270-1291.

Bureau of Labor Statistics. (2018). *Characteristics of minimum wage workers, 2017*. Retrieved from https://www.bls.gov/opub/reports/minimum-wage/2017/home.htm

Bureau of Labor Statistics. (2019). *CPI inflation calculator*. Retrieved from https://www.bls.gov/data/inflation_calculator.htm

Cammenga, J. (2019). *State and local sales tax rates, January 2019 (Fiscal Fact No. 633).* Retrieved from The Tax Foundation website: https://files.taxfoundation.org/20190130115700/State-Local-Sales-Tax-Rates-2019-FF-633.pdf

Campbell, D. T., & Stanley, J. C. (1966). *Experimental and quasi-experimental designs for research*. Chicago, IL: Rand McNally.

Card, D. & Krueger, A. (1995). *Myth and measurement: The new economics of the minimum wage*. Princeton, NJ: Princeton University Press.

Choi, S., & Mattila, A. S. (2006). The role of disclosure in variable hotel pricing: A cross-cultural comparison of customers' fairness perceptions. *Cornell Hotel and Restaurant Administration Quarterly*, 47(1), 27-35.

City and County of San Francisco. (2019). *Minimum wage ordinance*. Retrieved from https://sfgov.org/olse/minimum-wage-ordinance-mwo

City of Seattle. (2019). *Minimum wage ordinance*. Retrieved from http://www.seattle.gov/laborstandards/ordinances/minimum-wage

Cohen, J. (1992). A power primer. *Psychological* Bulletin, 112(1), 155-159.

Colander, D. (2000). The death of neoclassical economics. *Journal of the History of Economic Thought*, 22(2), 127-143.

Conlin, M., Lynn, M., & O'Donoghue, T. (2003). The norm of restaurant tipping. *Journal of Economic Behavior & Organization*, 52(3), 297-321.

Crespi, L. P. (1947). The implications of tipping in America. *The Public Opinion Quarterly*, 11(3), 424-435.

DiPietro, B. (2001, April 24). Tip credit sticking point to raising minimum wage. *Pacific Business News*. Retrieved from https://www.bizjournals.com/pacific/stories/2001/04/23/daily29.html

Dolnicar, S., Laesser, C., & Matus, K. (2009). Online versus paper: Format effects in tourism surveys. *Journal of Travel Research*, 47(3), 295-316.

Dube, A., Naidu, S., & Reich, M. (2007). The economic effects of a citywide minimum wage. *Industrial Relations & Labor Review*, 60(4), 522-543.

Dunn, E. (2018, February 24). The limitations of American restaurants' no-tipping experiment. *The New Yorker*. Retrieved from https://www.newyorker.com/culture/annals-of-gastronomy/the-limitations-of-american-restaurants-no-tipping-experiment

Elster, J. (1989). Social norms and economic theory. *The Journal of Economic Perspectives*, 3(4), 99-117.

Evans, M. R., & Dave, D. S. (1999). The thorny question of automatic service charges: Policies at prominent US resorts. *Cornell Hotel and Restaurant Administration Quarterly*, 40(4), 78-83.

Even, W. E., & Macpherson, D. A. (2014). The effect of the tipped minimum wage on employees in the US restaurant industry. *Southern Economic Journal*, 80(3), 633-655.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G* Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 39(2), 175-191.

Fehr, E., & Gächter, S. (2000). Fairness and retaliation: The economics of reciprocity. *Journal of Economic Perspectives*, 14(3), 159-181.

Feintzeig, R. (2018, June 14). What should waiters and bartenders earn? The debate over the tipped wage; Change may be coming for workers who rely on gratuities. *The Wall Street Journal*. Retrieved from https://www.wsj.com/articles/what-should-wait-staff-earn-the-debate-over-the-tipped-wage-1528988400

Fisher, K. S. (2015). Foodservice experience and tipping behavior: Further evidence of wage-inequality between tipped and non-tipped workers. *Inquiries Journal*, 7(12), 1.

Fong, L. H. N., Law, R., Tang, C. M. F., & Yap, M. H. T. (2016). Experimental research in hospitality and tourism: A critical review. *International Journal of Contemporary Hospitality Management*, 28(2), 246-266.

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., & Bryant, B. E. (1996). The American customer satisfaction index: Nature, purpose, and findings. *Journal of Marketing*, 60(4), 7-18.

Fougère, D., Gautier, E., & Le Bihan, H. (2010). Restaurant prices and the minimum wage. *Journal of Money, Credit and Banking*, 42(7), 1199-1234.

Frank, R. H. (1987). If Homo economicus could choose his own utility function, would he want one with a conscience? *The American Economic Review*, 77(4), 593-604.

Freeman, S., Walker, M., Borden, R., & Latané, B. (1975). Diffusion of responsibility and restaurant tipping: Cheaper by the bunch. *Personality and Social Psychology Bulletin*, 1(4), 584-587.

Gould, E., & Cooper, D. (2018, May 31). *Seven facts about tipped workers and the tipped minimum wage* [Web log post]. Retrieved from https://www.epi.org/blog/seven-facts-about-tipped-workers-and-the-tipped-minimum-wage/

Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review*, 25(2), 161-178.

Gueguen, N., & Jacob, C. (2011). Enhanced female attractiveness with use of cosmetics and male tipping behavior in restaurants. *Journal of Cosmetic Science*, 62(3), 283.

Greenberg, A. E. (2014). On the complementarity of prosocial norms: The case of restaurant tipping during the holidays. *Journal of Economic Behavior & Organization*, 97, 103-112.

Grewal, D., Monroe, K. B., & Krishnan, R. (1998). The effects of price-comparison advertising on buyers' perceptions of acquisition value, transaction value, and behavioral intentions. *The Journal of Marketing*, 46-59.

Grönroos, C. (1982). An applied service marketing theory. *European Journal of Marketing*, 16(7), 30-41.

Gundlach, G. T., & Murphy, P. E. (1993). Ethical and legal foundations of relational marketing exchanges. *Journal of Marketing*, 57(4), 35-46.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2011). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Prentice Hall.

Hamilton, W. H. (1919). The institutional approach to economic theory. *The American Economic Review*, 9(1), 309-318.

Harris, M. B. (1995). Waiters, customers, and service: Some tips about tipping. *Journal of Applied Social Psychology*, 25(8), 725-744.

Haws, K. L., & Bearden, W. O. (2006). Dynamic pricing and consumer fairness perceptions. *Journal of Consumer Research*, 33(3), 304-311.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication monographs*, 76(4), 408-420.

Hayes, A. F. (2015). An index and test of linear moderated mediation. *Multivariate Behavioral Research*, 50(1), 1-22.

Hayes, A.F. (2018a). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (2nd ed.). New York, NY: The Guilford Press.

Hayes, A. F. (2018b). Partial, conditional, and moderated moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85(1), 4-40.

Hemenway, D. (1993). *Prices & choices: Microeconomic vignettes* (3rd ed.). Lanham, MD: University Press of America.

Holloway, J. C. (1985). Between gratitude and gratuity commentary on Shamir. *Annals of Tourism Research*, 12(2), 239-242.

Hui, M. K., & Bateson, J. E. (1991). Perceived control and the effects of crowding and consumer choice on the service experience. *Journal of Consumer Research*, 18(2), 174-184.

Hsee, C. K., Loewenstein, G. F., Blount, S., & Bazerman, M. H. (1999). Preference reversals between joint and separate evaluations of options: A review and theoretical analysis. *Psychological Bulletin*, 125(5), 576-590.

Ingraham, C. (2018, January 11). What does a $15 minimum wage do to the economy? Economists are starting to find out. *The Washington Post*. Retrieved from https://www.washingtonpost.com/news/wonk/wp/2018/01/11/what-does-a-15-minimum-wage-do-to-the-economy-economists-are-starting-to-find-out/?noredirect=on&utm_term=.284c6faee7b

Jacob, N. L., & Page, A. N. (1980). Production, information costs, and economic organization: The buyer monitoring case. *The American Economic Review*, 70(3), 476-478.

Jacob, C., Guéguen, N., Boulbry, G., & Ardiccioni, R. (2010). Waitresses' facial cosmetics and tipping: A field experiment. *International Journal of Hospitality Management*, 29(1), 188-190.

Jones, M. R. (2016). Measuring the effects of the tipped minimum wage using W-2 data. Center for Administrative Records Research and Applications Working Paper 2016-03, *U.S. Census Bureau.* Retrieved from United States Census Bureau website:

https://www.census.gov/content/dam/Census/library/working-papers/2016/adrm/carra-wp-2016-03.pdf

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, 47(2), 263-291.

Kahneman, D., & Tversky, A. (1984). Choices, values, and frames. *American Psychologist*, 39(4), 341.

Kahneman, D., Knetsch, J. L., & Thaler, R. H. (1986a). Fairness and the assumptions of economics. *Journal of Business*, S285-S300.

Kahneman, D., Knetsch, J. L., & Thaler, R. (1986b). Fairness as a constraint on profit seeking: Entitlements in the market. *The American Economic Review*, 728-741.

Kaufman, B. E. (2009). Promoting labour market efficiency and fairness through a legal minimum wage: The Webbs and the social cost of labour. *British Journal of Industrial Relations*, 47(2), 306-326.

Keppel, G., & Wickens, T.D. (2004). *Design and analysis. A researcher's handbook* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall

Kim, P. B., Nemeschansky, B., & Brandt, L. (2017). An exploratory study of determinants for restaurant servers' actual tip earnings: Individual characteristics and work conditions. *Journal of Foodservice Business Research*, 20(1), 15-33.

Kimes, S. E. (1994). Perceived Fairness of Yield Management. *Cornell Hospitality Report*, 35(1), 22-29.

Kimes, S.E. (2008). A consumer's view of restaurant reservations policies. *Cornell Hospitality Report*, 8(1), 6-21.

Kimes, S. E. (2009). How restaurant customers view on-line reservations. *Cornell Hospitality Report*, 9(5), 5-15.

Kimes, S. E., & Noone B.M. (2002). Perceived fairness of yield management: An update. *Cornell Hospitality Report*, 43(1), 28-29.

Kimes, S. E., & Wirtz, J. (2002). Perceived fairness of demand-based pricing for restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 43(1), 31-37.

Kimes, S. E., & Wirtz, J. (2016). Revenue management in restaurants: Unbundling pricing for reservations from the core service. *Cornell Hospitality Report*, 16(8), 3-12.

Kivela, J., Inbakaran, R., & Reece, J. (1999). Consumer research in the restaurant environment, Part 1: A conceptual model of dining satisfaction and return patronage. *International Journal of Contemporary Hospitality Management*, 11(5), 205-222.

Koku, P. S., & Savas, S. (2016). Restaurant tipping and customers' susceptibility to emotional contagion. *Journal of Services Marketing*, 30(7), 762-772.

Kreps, D.M. (1990). *A course in microeconomic theory*. Princeton, NJ: Princeton University Press.

Kwortnik Jr, R. J., Lynn, W. M., & Ross Jr, W. T. (2009). Buyer monitoring: A means to insure personalized service. *Journal of Marketing Research*, 46(5), 573-583.

Lancaster, K. (1971). *Consumer demand: A new approach*. New York, NY: Columbia University Press.

Leins, C. (2018, December 31). Minimum wage increases in 20 states. *U.S. News & World Report.* Retrieved from https://www.usnews.com/news/best-states/articles/2018-12-31/minimum-wage-increases-in-20-states-in-2019

Lemos, S. (2004). The effect of the minimum wage on prices. *Institute for the Study of Labor IZA Discussion Paper No. 1072*.

Lin, I. Y., & Namasivayam, K. (2011). Understanding restaurant tipping systems: A human resources perspective. *International Journal of Contemporary Hospitality Management*, 23(7), 923-940.

Lindenmeier, J., & Tscheulin, D. K. (2008). The effects of inventory control and denied boarding on customer satisfaction: The case of capacity-based airline revenue management. *Tourism Management*, 29(1), 32-43.

Lynn, M. (1996). Seven ways to increase servers' tips. *Cornell Hotel and Restaurant Administration Quarterly*, 37(3), 24-29.

Lynn, M. (2001). Restaurant tipping and service quality: A tenuous relationship. *Cornell Hotel and Restaurant Administration Quarterly*, 42(1), 14-20.

Lynn, M. (2003). Restaurant tips and service quality: A weak relationship or just weak measurement. *International Journal of Hospitality Management*, 22(3), 321-325.

Lynn, M. (2006a). Tipping and its alternatives: A comparison of tipping, service charges, and service-inclusive pricing. *Cornell Hospitality Report*, 6(5), 6-16.

Lynn, M. (2006b). Tipping in restaurants and around the globe: An interdisciplinary review. In M. Altman (Ed.), *Handbook of contemporary behavioral economics: Foundations and development* (pp. 626-643). Armonk, New York: M.E. Sharpe Publishers

Lynn, M. (2008). Personality effects on tipping attitudes, self-reported behaviors and customs: A multi-level inquiry. *Personality and Individual Differences*, 44(4), 989-999.

Lynn, M. (2009). Individual differences in self-attributed motives for tipping: Antecedents, consequences, and implications. *International Journal of Hospitality Management*, 28(3), 432-438.

Lynn, M. (2017a). Does tipping help to attract and retain better service workers? *Journal of Foodservice Business Research,* 20(1), 82-89.

Lynn, M. (2017b). Should US restaurants abandon tipping? A review of the issues and evidence. *Psychosociological Issues in Human Resource Management*, 5(1): 120–159.

Lynn, M. (2018). The effects of tipping on consumers' satisfaction with restaurants. *Journal of Consumer Affairs.* 52(3), 746-755.

Lynn, M., & Brewster, Z. W. (2018). A within-restaurant analysis of changes in customer satisfaction following the introduction of service inclusive pricing or automatic service charges. *International Journal of Hospitality Management*, 70, 9-15.

Lynn, M., & Grassman, A. (1990). Restaurant tipping: An examination of three 'rational' explanations. *Journal of Economic Psychology*, 11(2), 169-181.

Lynn, M., & Graves, J. (1996). Tipping: an incentive/reward for service? *Hospitality Research Journal*, 20(1), 1-14.

Lynn, M., & Latané, B. (1984). The psychology of restaurant tipping. *Journal of Applied Social Psychology*, 14(6), 549-561.

Lynn, M., & Lynn, A. (2004). National values and tipping customs: A replication and extension. *Journal of Hospitality & Tourism Research*, 28(3), 356-364.

Lynn, M., & McCall, M. (2000). Gratitude and gratuity: A meta-analysis of research on the service-tipping relationship. *The Journal of Socio-Economics*, 29(2), 203-214.

Lynn, M., & Simons, T. (2000). Predictors of male and female servers' average tip earnings. *Journal of Applied Social Psychology*, 30(2), 241-252.

Lynn, M., & Starbuck, M. M. (2015). Tipping customs: The effects of national differences in attitudes toward tipping and sensitivities to duty and social pressure. *Journal of Behavioral and Experimental Economics*, 57, 158-166.

Lynn, M., & Sturman, M. (2010). Tipping and service quality: a within-subjects analysis. *Journal of Hospitality & Tourism Research,* 34(2), 269-275.

Lynn, M., & Withiam, G. (2008). Tipping and its alternatives: Business considerations and directions for research. *Journal of Services Marketing*, 22(4), 328-336.

Lynn, M., & Wang, S. (2013). The indirect effects of tipping policies on patronage intentions through perceived expensiveness, fairness, and quality. *Journal of Economic Psychology*, 39, 62-71.

Lynn, M., Zinkhan, G. M., & Harris, J. (1993). Consumer tipping: A cross-country study. *Journal of Consumer Research*, 20(3), 478-488.

MacDonald, J. M., & Aaronson, D. (2006). How firms construct price changes: Evidence from restaurant responses to increased minimum wages. *American Journal of Agricultural Economics*, 88(2), 292-307.

MacKinnon, D. P., Krull, J. L., & Lockwood, C. M. (2000). Equivalence of the mediation, confounding, and suppression effect. *Prevention Science*, 1, 173–181.

May, J. M. (1980). Looking for tips: An empirical perspective on restaurant tipping. *Cornell Hotel and Restaurant Administration Quarterly*, 20(4), 6-8.

Mayser, S., & von Wangenheim, F. (2013). Perceived fairness of differential customer treatment: Consumers' understanding of distributive justice really matters. *Journal of Service Research*, 16(1), 99-113.

Maze, J. (2018). Rising labor expenses cost restaurants $250M in 2017. *Restaurant Business*. Retrieved from https://www.restaurantbusinessonline.com/financing/rising-labor-cost-restaurants-250-million-2017

McAdams, B., & von Massow, M. (2017). Tipped out: How do gratuities affect restaurant operations? *Journal of Foodservice Business Research*, 20(4), 432-446.

McGuire, K. A., & Kimes, S. E. (2006). The perceived fairness of waitlist-management techniques for restaurants. *Cornell Hotel and Restaurant Administration Quarterly*, 47(2), 121-134.

Miller, B. (2010). Compensation practices in restaurants and the impact on service quality. *Journal of Foodservice Business Research*, 13(1), 24-35.

Mincer, J. (1976). Unemployment effects of minimum wages. *Journal of Political Economy*, 84(4, Part 2), S87-S104.

Mok, C., & Hansen, S. (1999). A study of factors affecting tip size in restaurants. *Journal of Restaurant & Foodservice Marketing*, 3(3-4), 49-64.

Morwitz, V. G., Greenleaf, E. A., & Johnson, E. J. (1998). Divide and prosper: consumers' reactions to partitioned prices. *Journal of Marketing Research*, 35(4), 453-463.

Mullainathan, S., & Thaler, R. H. (2000). Behavioral economics (No. w7948). *National Bureau of Economic Research*.

Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, 89(6), 852.

Mun, S. G., & Jang, S. S. (2018). Restaurant operating expenses and their effects on profitability enhancement. *International Journal of Hospitality Management*, 71, 68-76.

Namasivayam, K., & Upneja, A. (2007). Employee preferences for tipping systems. *Journal of Foodservice Business Research*, 10(2), 93-107.

National Restaurant Association & Deloitte & Touche LLP. (2016). *Restaurant operations report 2016 edition*. Retrieved from http://imis.restaurant.org/store/detail.aspx?id=OPSRPT2016

New York State. (2019). *New York State's minimum wage*. Retrieved from https://www.ny.gov/new-york-states-minimum-wage/new-york-states-minimum-wage

Ogbonna, E., & Harris, L. C. (2002). Institutionalization of tipping as a source of managerial control. *British Journal of Industrial Relations*, 40(4), 725-752.

Oh, H. (2000). Diners' perceptions of quality, value, and satisfaction: A practical viewpoint. *Cornell Hotel and Restaurant Administration Quarterly*, 41(3), 58-66.

Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: A field survey approach. *Journal of Marketing*, 53(2), 21-35.

O'Neil, C. (2015, October 26). Pitting poor against poorer in the fight for tips. *BillMoyers.com*. Retrieved from https://billmoyers.com/2015/10/26/if-restaurants-eliminate-tipping-who-wins/

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41-50.

Park, C. W., & Lessig, V. P. (1981). Familiarity and its impact on consumer decision biases and heuristics. *Journal of Consumer Research*, 8(2), 223-230.

Parrett, M. B. (2003). *The give and take on restaurant tipping* (Doctoral dissertation). Retrieved from https://vtechworks.lib.vt.edu/bitstream/handle/10919/11049/ETDDissertation.pdf?sequence=1&isAllowed=y

Perera, H. N. (2013). A novel approach to estimating and testing specific mediation effects in educational research: Explication and application of Macho and Ledermann's (2011) phantom model approach. *International Journal of Quantitative Research in Education*, 1(1), 39-60.

Perkins, H. W., & Berkowitz, A. D. (1986). Perceiving the community norms of alcohol use among students: Some research implications for campus alcohol education programming. *International journal of the Addictions*, 21(9-10), 961-976.

Picchi, A. (2014, May 29). Are tipped workers getting left behind? *CBS News.* Retrieved from https://www.cbsnews.com/news/are-tipped-workers-getting-left-behind/

Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, and Computers*, 36, 717–731.

ProQuest. (2019). *Products – Statistical abstract of the United States*. Retrieved from https://www.proquest.com/products-services/statabstract.html

Qin, G., & Prybutok, V. R. (2008). Determinants of customer-perceived service quality in fast-food restaurants and their relationship to customer satisfaction and behavioral intentions. *Quality Management Journal*, 15(2), 35-50.

Qualtrics. (2019). *Qualtrics research core*. Retrieved from https://www.qualtrics.com/research-core/

Rabin, M. (1998). Psychology and economics. *Journal of Economic Literature*, 36(1), 11-46.

Rucker, D. D., Preacher, K. J., Tormala, Z. L., & Petty, R. E. (2011). Mediation analysis in social psychology: Current practices and new recommendations. *Social and Personality Psychology Compass*, 5(6), 359-371.

Ryu, K., Han, H., & Kim, T. H. (2008). The relationships among overall quick-casual restaurant image, perceived value, customer satisfaction, and behavioral intentions. *International Journal of Hospitality Management*, 27(3), 459-469.

Ryu, K., Lee, H. R., & Kim, W. G. (2012). The influence of the quality of the physical environment, food, and service on restaurant image, customer perceived value, customer satisfaction, and behavioral intentions. *International Journal of Contemporary Hospitality Management*, 24(2), 200-223.

Seok, J.H., Kim, G., & Mark, T. (2017). The impact of minimum wage on food away from home expenditure using structural equation model. *International Journal of Food and Agriculture Economics*, 5(2), 45-57.

Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002), *Experimental and quasi-experimental designs for generalized causal inference*. Boston, MA: Houghton Mifflin Company.

Seiders, K., & Berry, L. L. (1998). Service fairness: What it is and why it matters. *Academy of Management Perspectives*, 12(2), 8-20.

Shamir, B. (1980). Between service and servility: Role conflict in subordinate service roles. *Human Relations*, 33(10), 741-756.

Shamir, B. (1983). A note on tipping and employee perceptions and attitudes. *Journal of Occupational Psychology*, 56(3), 255-259.

Shamir, B. (1984). Between gratitude and gratuity an analysis of tipping. *Annals of Tourism Research*, 11(1), 59-78.

Shoemaker, S. (2003). The future of pricing in services. *Journal of Revenue and Pricing Management*, 2(3), 271-279.

Shy, O. (2015). Do tips increase workers' income? *Management Science*, 61(9), 2041-2051.

Shrout, P. E., & Bolger, N. (2002). Mediation in experimental and non-experimental studies: New procedures and recommendations. *Psychological Methods*, 7, 422–445.

Snyder, M. L. (1976). The inverse relationship between restaurant party size and tip percentage: Diffusion of responsibility or equity? *Personality and Social Psychology Bulletin*, 2(3), 308-308.

Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.

Stigler, G. J. (1946). The economics of minimum wage legislation. *The American Economic Review*, 36(3), 358-365.

Sturman, M. C. (2001). The compensation conundrum: Does the hospitality industry shortchange its employees—and itself? *Cornell Hotel and Restaurant Administration Quarterly*, 42(4), 70-76.

Taylor, W. J., & Kimes, S. E. (2010). How hotel guests perceive the fairness of differential room pricing. *Cornell Hospitality Report*, 10(2), 6-13.

Thaler, R. (1980). Toward a positive theory of consumer choice. *Journal of Economic Behavior & Organization*, 1(1), 39-60.

Thebault, R. (2018, July 31). The voters approved it. Should lawmakers erase the result? In D.C., a debate about democracy. *The Washington Post.* Retrieved from

https://www.washingtonpost.com/local/dc-politics/the-voters-approved-it-should-lawmakers-erase-the-result-in-dc-a-debate-about-democracy/2018/07/31/d23ae650-91ae-11e8-b769-e3fff17f0689_story.html?noredirect=on&utm_term=.d2c628a29763

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185(4157), 1124-1131.

Tversky, A., & Kahneman, D. (1991). Loss aversion in riskless choice: A reference-dependent model. *The Quarterly Journal of Economics*, 1039-1061.

US Census Bureau. (2010). *Statistical abstract of the United States: 2010*. Retrieved from: https://www.census.gov/library/publications/2009/compendia/statab/129ed/accommodation-food-other-services.html

US Department of Labor. (2019a). *Tips*. Retrieved from https://www.dol.gov/general/topic/wages/wagestips

US Department of Labor. (2019b). *Wage & hour division (WHD) – Minimum wages for tipped employees*. Retrieved from https://www.dol.gov/whd/state/tipped.htm

van den Bos, K., Lind, E. A., Vermunt, R., & Wilke, H. A. (1997). How do I judge my outcome when I do not know the outcome of others? The psychology of the fair process effect. *Journal of Personality and Social Psychology*, 72(5), 1034.

Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, 68(1), 1-17.

Varian, H. R. (1978). *Microeconomic analysis*. New York, NY: W. W. Norton & Company, Inc.

Videbeck, S. (2004). The economics and etiquette of tipping. *Policy: A Journal of Public Policy and Ideas*, 20(4), 38.

Walker, S. (2018, August 25 – 26). A restaurant king fights a lonely war on tips. *The Wall Street Journal,* pp. B1, B4.

Wall, E. A., & Berry, L. L. (2007). The combined effects of the physical environment and employee behavior on customer perception of restaurant service quality. *Cornell Hotel and Restaurant Administration Quarterly*, 48(1), 59-69.

Walster, E., Berscheid, E., & Walster, G. W. (1973). New directions in equity research. *Journal of Personality and Social Psychology*, 25(2), 151.

Wang, S., & Lynn, M. (2007). The effects on perceived restaurant expensiveness of tipping and its alternatives. *Cornell Hospitality Report*, 7(3), 6-17.

Wang, S., & Lynn, M. (2017). The effects of service charges versus service-included pricing on deal perception. *Journal of Hospitality & Tourism Research*, 41(2), 246-254.

Wessels, W. J. (1993). The minimum wage and tipped employees. *Journal of Labor Research*, 14(3), 213-226.

Wessels, W. J. (1997). Minimum wages and tipped servers. *Economic Inquiry*, 35(2), 334-349.

Whaley, J. E., Douglas, A. C., & O'Neill, M. A. (2014). What's in a tip? The creation and refinement of a restaurant-tipping motivations scale: A consumer perspective. *International Journal of Hospitality Management*, 37, 121-130.

Wirtz, J., & Kimes, S. E. (2007). The moderating role of familiarity in fairness perceptions of revenue management pricing. *Journal of Service Research*, 9(3), 229-240.

Working Washington. (2019). *Seattle minimum wage*. Retrieved from https://www.workingwa.org/seattle-minimum-wage/

Xia, L., Monroe, K. B., & Cox, J. L. (2004). The price is unfair! A conceptual framework of price fairness perceptions. *Journal of Marketing*, 68(4), 1-15.

Yadav, M. S. (1994). How buyers evaluate product bundles: A model of anchoring and adjustment. *Journal of Consumer Research*, 21(2), 342-353.

Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22.

Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1988). Communication and control processes in the delivery of service quality. *Journal of Marketing*, 52(2), 35-48.

Zikmund, W.G. (2003). *Business research methods*. Mason, OH: South-Western.

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