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Split Labor Markets in International Schools: Perceptions of Fairness Among Local-Hire Teachers

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SPLIT LABOR MARKETS IN INTERNATIONAL SCHOOLS:
PERCEPTIONS OF FAIRNESS AMONG LOCAL-HIRE TEACHERS

by

Rose Tyvand

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“SPLIT LABOR MARKETS IN INTERNATIONAL SCHOOLS: PERCEPTIONS OF FAIRNESS AMONG LOCAL-HIRE TEACHERS,” a Doctoral research project prepared by ROSE TYVAND in partial fulfillment of the requirements for the Doctor of Education degree in Educational Leadership.

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Abstract

This quantitative study investigated perceptions of compensation fairness among local-hire teachers at international schools who worked in a split labor market. Under this model, local-hire teachers perform the same basic job duties as their foreign-hire colleagues, yet receive far less compensation. The study employed survey research to examine potential relationships between such variables as: perceived compensation differentials, perception of foreign-hire contributions, teachers’ dependents attending the school on scholarship, perception of systems of communication and promotion, perception of compensation fairness, and willingness to support and collaborate with foreign hire teachers. 86 local-hire teachers from 7 international schools responded to online questions at a response rate of 61.4%. The data-collection instrument was modified from a similar study conducted by Bonache, Sanchez, and Zárraga-Oberty (2009) in a multi-national business setting. Analysis revealed local-hire teachers’ perceptions of compensation fairness to be significantly correlated ($p < 0.05$) to two variables: (a) the perceived professional contributions of foreign-hire teachers at the same school ($r = .358$), and (b) local-hire teachers’ perceived difference between personal compensation and compensation of local-hire teachers at other international schools ($r = -.363$). These same two variables also significantly contributed to the multiple regression model created by this study to predict local-hire teachers’ perceptions of compensation fairness ($R = .620$, $R^2 = .385$). All results were analyzed in the context of Social Equity and Referent Selection Theory, meaning perceptions of compensation fairness may change based upon the local-hire teachers’ choice of a social referent. Four additional independent variables were rejected as insignificant to the model. Unlike similar studies conducted in the business sector, no evidence was found to support the hypothesis that
there was a positive correlation between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers. These findings shed light on a minimally studied issue related to social justice in international schools. The author recommends international school administrators be aware of the local job market for local-hire teachers, monitor the contributions of foreign-hire teachers, and increase efforts at communication with local-hire teachers.

Key Words: International school, local-hire teachers, local teachers, foreign-hire teachers, foreign teachers, split labor market, split market compensation, compensation fairness, pay unfairness, social equity theory, referent selection theory
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Finally, I dedicate my doctoral dissertation to the inspirational, gifted and oft under-appreciated local-hire teachers with whom I have worked.
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Chapter 1: Introduction

I've been working in [this international school] for about 10 years. Comparing my salary to other teachers in local schools, I think it is fair. But when you compare it to foreign-hire teachers, it is not the same, and it is obvious. I know that the amount of work we are doing is similar, the only question is language, maybe? That is what is not clear to me... I feel that some (not all!) foreign-hire teachers are not treating local-teachers fairly. For some reasons, they may talk down to them or act like local-teachers are less important. And when our [administrators] try to do some team building activities to help us work together like a "family", [sic] I don't see how it helps. We are like 2 separate "worlds". We may work together for one day, but it won't change the situation (Study Participant A).

Twelve years ago, I embarked upon the journey of a lifetime. I packed all the belongings of my husband, toddler, and myself into ten bags and boarded a plane to China to begin a life which sounded almost too good to be true. I was entering the realm of “expat royalty” in which teachers—a profession I had found to be underpaid and under-supported in America—could live a life of luxury. My husband and I were new foreign-hire teachers at an international school.

Indeed, as foreign-hire teachers at a successful international school, our new lifestyle was opulent compared to our peers in the US. We earned tax-free salaries that generously covered our cost of living in China. Our school paid for airfare, medical expenses, housing, shipping costs, and much more. We spent long weekends in Macau and Hong Kong. Spring Break meant a trip to Bali. We hired a full-time nanny whose monthly salary cost us less than one day of our own teaching salary. Our work conditions were excellent with small classes and plenty of support. We worked hard, played hard, traveled extensively, and were compensated well.
Life at an international school can certainly be a dream job for expatriate teachers. Teaching conditions are often ideal with small class sizes, adequate staffing, up-to-date technology, and ample resources. Allowances for housing, shipping, furniture, travel, utilities, and professional development are regularly part of an international hiring package. Additionally, health insurance, retirement contribution, tuition for dependents, and a tax-free salary are frequently included (The International Educator, 2016; Search Associates, 2017). However, my husband and I soon learned that these benefits are typically extended only to teachers who fall into the category of foreign-hires. Foreign-hire teachers are usually defined as expatriate individuals who come from highly-developed, native-English speaking countries such as the USA, Canada, Australia, or the UK (Hayden, Thompson, & Walker, 2002). Except for their employment at an international school, foreign-hire teachers usually have no other reason to live in the host country. Their relatives are typically not host-country nationals. Nor are these teachers living in the host country to accompany their spouses who work for diplomatic missions or multi-national companies (Canterford, 2003; Hayden et al., 2002).

A second group of teachers fall into the category of local-hires. Unlike foreign-hire teachers, local-hire teachers do possess significant ties to the local community (Hayden et al., 2002). In a job market characterized by high rates of turnover amongst foreign-hire teachers (Odland & Ruzicka, 2009), local-hire teachers often create the backbone of an international school (MacKenzie, 2009). Ironically, these deep roots in the local community are often used as justification to deny local-hire teachers the benefits afforded to their international co-workers such as housing, visa support and travel expenses (Hayden et al., 2002).

The job expectations of local-hire teachers are often the same as their foreign-hire counterparts. Likewise, local-hire teachers are often expected to possess qualifications
equivalent to their international colleagues. Despite this, international schools usually pay local-hire teachers on a much lower scale than their foreign-hire co-workers. Further, local-hire teachers rarely receive benefits such as free tuition for their dependents or opportunities for professional development and leadership positions (Canterford, 2003; Hayden et al., 2002; Zhang & McGrath, 2009).

As an example of this pay inequity, one local-hire teacher described her 20-year tenure as a full-time language arts teacher at an international school in South America. At the peak of her career, she was paid $9,000 a year with no additional benefits. This teacher possessed a valid teaching license and two master’s degrees from accredited universities—qualifications quite similar to my own. Her job expectations were the same as those of her foreign-hire colleagues (Female Local-hire Teacher, personal communication, November 11, 2013). In 2013, her former employers advertised for a foreign-hire language arts teacher. The job posting announced a benefits package which included medical insurance, free housing/utilities, round-trip airfare, and a starting salary of $24,568 - 35,795 (The International Educator, 2013).

Because many international schools are privately owned and operated for profit, they must balance their fiscal needs with their educational responsibilities. Hence, as noted by Hayden et al. (2002), simply improving the salaries of local-hire teachers may not be fiscally possible for many schools. This situation is complicated by the fact that international schools are often pressured to recruit and retain native English-speaking expatriate teachers in order to satisfy the demands and perceptions of parents and students (Canterford, 2003; Färber & Sutherland, 2006; Hayden et al., 2002; Mancuso, Roberts, & White, 2010).

As an international school employee, I was aware of these circumstances. However, I became increasingly bothered by the situation when, after three years in China, our family
transferred to an international school in Eastern Europe. In Europe, we worked at a school with a much smaller foreign-hire population. For this reason and many more, my family made a concerted effort to connect with the local population. We studied the local language, lived in a local neighborhood, socialized regularly with our local-hire colleagues, and tried to work as equals in our professional endeavors. As a result, I became even more concerned about the inequities present in our workplace.

These various experiences led to a myriad of personal and professional motivations which drove me to undertake the study as described in this document. From a personal perspective, I am deeply bothered by the perpetuation of social injustice towards a group of teachers which I highly respect. Most local-hire teachers are bilingual and bicultural. In many ways, they personify the vision of multiculturalism that international schools seek to promote. However, they are systematically treated like second-class citizens. As I find my career now moving into the realm of international school administration, I also have professional motivations for exploring this problem. I wonder if the disparate system of teacher compensation ultimately affects the productivity of an international school. I wonder if it is possible to balance the fiscal needs of an international school while simultaneously creating a more egalitarian workplace in which staff collaboration and collegiality is maximized.

**Statement of Problem**

In 1972, sociologist Edna Bonacich, published *A Theory of Ethnic Antagonism: The Split Labor Market*, and thereby introduced the term *split labor market*. Bonacich (1972) described split labor markets as situations in which multiple racial/ethnic groups contend for the same job, and the cost of labor is significantly less for one of these groups. The situation can lead to divisiveness and antagonism between the two groups of employees (Bonacich, 2006; Zhang &
McGrath, 2009). As I mentioned before, I first experienced this separation between local- and foreign-hire teachers at my international school in China. I noticed that foreign- and local-hire teachers rarely sought one another’s pedagogical advice and collaboration. Although both groups of teachers were friendly and professional, they seldom socialized or teamed up for extra-curricular activities like coaching. I felt acutely aware that I had joined a privileged upper-class in a stratified work environment where the classes of teachers only minimally mixed with one another.

Since my experiences in China, I have witnessed a pervasive, underlying discomfort surrounding the topic of split labor markets at other international schools around the world. Both local- and foreign-hire teachers are aware of the situation, but few openly discuss its implications. As I watched my local-hire colleagues in China and Eastern Europe perform the same job duties as I did, I began to wonder how they felt about the fairness of the situation. I thought about what factors might contribute to their perceptions of compensation fairness. I imagined that if local-hire teachers felt they were being compensated fairly, then there would be less underlying tension between them and their foreign-hire colleagues. Hence, there would be more support and collaboration.

As discussed in Chapter 2, when I tried to find research examining the connections between these factors, I was disappointed to realize that surprisingly little had been published on the topic of split labor markets at international schools. Thus, through this study, I attempt to fill some of those research gaps.

Statement of Purpose

The purpose of this quantitative study was to explore the perceptions of local-hire teachers who are employed in split labor markets at international schools. By surveying a group
of similarly-employed, local-hire teachers, I examined potential relationships between such variables as: perceived compensation differentials, perception of foreign-hire contributions, teachers’ dependents attending the school on scholarship, perception of systems of communication and promotion, perception of compensation fairness, and willingness to support and collaborate with foreign hire teachers. After appropriate data-analysis, I also proposed a model by which different independent variables may be used to predict the dependent variable: *local-hire teachers’ perceived compensation fairness.*

**Research Questions**

Within this study, I attempted to answer the following questions:

1. **What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and:**

   a. their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school?
   
   b. their perceived difference between personal compensation and compensation of local-hire teachers at different international schools?
   
   c. their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country?
   
   d. their perception of contributions made by foreign-hire teachers?
   
   e. whether or not a tuition-waiver is received so that their dependents may attend the international school in which they work?
   
   f. their perception of systems of communication and promotion?

2. **What is the relationship between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers?**
Hypotheses

In order to systematically guide my investigation of these questions, I proposed the following hypotheses. These hypotheses directed my survey design, data collection, and eventual data analysis.

Hypothesis 1: There will be a correlation between local-hire teachers’ perceptions of compensation fairness and the following variables:

a. their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school

b. their perceived difference between personal compensation and compensation of local-hire teachers at different international schools

c. their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country

d. their perception of contributions made by foreign-hire teachers

e. whether or not a tuition-waiver is received so their dependents may attend the international school in which they work

f. their perception of systems of communication and promotion

Hypothesis 2: There will be a positive correlation between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers.

Significance

Multiple studies have already explored the experiences of local-hire employees working in split labor markets at multinational businesses (Bonache et al., 2009; Mahajan, 2011; Templer, 2010; Toh & Denisi, 2007). However, it is questionable whether or not the results of these
studies may be generalized to encompass the experiences of local-hire teachers working at international schools. This study is significant because it explores the issue of split labor markets within a unique and previously unexamined population. Because I work closely with this population, I also hold a personal interest in the topic.

**Key Terms**

The following key terms form the foundation of this study. Around the world, these words are widely used in international schools where their definitions are generally understood to be the same. The *Discussion of Key Terms* section in Chapter 2 elaborates on these same terms by explaining their delimitations and citing specific literature relating to their definitions.

**Foreign-hire teachers.** Full-time educators at international schools who are employed on foreign-hire contracts which include higher salaries and greater compensation packages than those offered to their local-hire colleagues.

**International school.** A private, English-language school, that exists in a country where English is not necessarily an official language and that does not exclusively follow the public curriculum of the host-country.

**Local-hire teachers.** Full-time, international school teachers who are employed on a local-hire contract.

**Perceived compensation fairness.** The extent to which a local-hire teacher feels their overall compensation to be "fair."

**Perceived compensation differential.** The amount by which local-hire teachers perceive their compensation packages to exceed or lag behind that of a specified social referent.

**Social referent.** The individuals to whom local hire teachers are comparing themselves when determining personal perceptions of compensation fairness.
Limitations and Delimitations

Limitations. The largest limitation affecting the internal validity of this study concerns the transferability of the instrument. As detailed in Chapter 3, this study employed a survey that was used in 2009 to explore feelings of fairness in multinational companies (Bonache, Sanchez & Zárraga-Oberty, 2009). Although many of the survey questions have been validated, they have not been repeated in multiple studies. Nor have they been used in an educational setting. Ideally, I would have revalidated each survey item with groups of local-hire teachers. However, because my sample was already quite small, I did not have access to the individuals necessary to effectively re-validate each question.

Another limitation of my study is related to anonymity. The importance of ensuring anonymity amongst the respondents cannot be overstated. Numerous unpublished, informal, and/or anonymous sources deplore the use of split labor markets in international schools. In April 2002, The International Educator published an anonymous editorial which lambasted this “frequent” practice (Jameson, 2012, p. 27). Multiple internet blogs informally and anonymously address the same issue. However, despite the propensity of informal writing, there are still large gaps where no research has been formally published about split labor markets in international schools.

The unwillingness of international educators to formally speak out—and publish—on this subject may be due to several reasons. In my experience, local-hire teachers express a greater concern for their job security than foreign-hire teachers. Perhaps this is because the local job market is depressed. Or perhaps this is because less money is typically invested in the hiring and training of local-hire teachers, making their turnover less economically punitive to the school. The causes of this repeated observation are meant for another study. Whatever the reason, I have
met very few local-hire teachers who are willing to publically speak out about the split labor markets in which they work. Therefore, if participants did not feel the methods of this study guaranteed complete and continued anonymity, there was serious risk of a social desirability effect and ultimate response biasing (Nardi, 2014). Because of this necessary emphasis on anonymity, I was unable to ask some direct and sensitive questions whose answers might have provided interesting insight into the experiences of local-hire teachers in international schools. These implications are further discussed in Chapter 3.

Finally, as noted earlier, international schools across the globe represent a wide range of schools, staff, students, and educational practices. Thus, any study attempting to generalize its findings from one international school to another will face serious limitations. For example, the hiring and compensation practices at an international school in Albania may be drastically different than those at an international school in Nigeria. Likewise, the individual and experiences and perceptions of a local-hire Albanian teacher may be quite different from those of a local-hire Nigerian teacher because of their cultural backgrounds.

The participants in my study worked for the same parent organization. However, they also came from different cultural and educational backgrounds, worked in different locations, taught different grades/subjects, and represented multiple nationalities. Their international school work experiences might have been affected by untested, yet disparate, variables such as the strength of the local job market, level of English fluency or school size. The heterogeneity of these types of characteristics could ultimately affect my ability to generalize the findings of this study (Nardi, 2014).

**Delimitations.** The delimitations of this study were set to define a specific model which may be applied to a particular population. In this section, I briefly outline those delimitations...
while subsequent sections in Chapters 2 and 3 discuss in greater detail why and how they were selected. *Figure 1* illustrates the relationships between the independent and dependent variables in this study.

**Hypotheses 1: Independent Variables**

a. Local hire teachers’ perceived difference between personal compensation and compensation of foreign-hire teachers at the same school

b. Local hire teachers’ perceived difference between personal compensation and compensation of local-hire teachers at other international schools

c. Local hire teachers’ perceived difference between personal compensation and compensation of local teachers at public, domestic schools

d. Perception of contributions made by foreign-hire teachers

e. Presence or absence of tuition-waivers for dependents

f. Perception of systems of communication and promotion opportunities

**Hypotheses 1: Dependent Variable**

Local-hire teachers’ perceived compensation fairness

**Hypotheses 2: Independent Variable**

Local-hire teachers’ willingness to assist and collaborate with foreign-hire teachers

**Hypotheses 2: Dependent Variable**

Local hire teachers’ perceived compensation fairness

*Figure 1*: Models and their variables. This figure illustrates how the dependent variable from Hypotheses 1a – f becomes the independent variable in Hypothesis 2.

I carefully defined delimitations for this study in order to create a specific model in which extraneous independent variables were eliminated. As such, I deliberately selected a short list of independent variables to test based upon a combination of personal observations and findings from prior studies in the international business sector. Hypothesis 1a is based upon business-sector studies which examined the experiences of local-hire employees working in a split labor...
market. These studies demonstrated a negative correlation between the local-hire employees’ perceived compensation fairness and the amount by which their personal compensation appeared to exceed or lag behind the compensation of their foreign-hire colleagues (Bonache et al., 2009; Chen, Choi & Chi, 2002). The work of Bonache et al. (2009) found this correlation to be mediated when the local-hire employees’ perceived the contributions made by their foreign-hire colleagues to be quite large. Likewise, they found local-hire employees to be more satisfied when they felt they were earning more money than workers in the local job market with similar employment and demographics. These findings prompted Hypotheses 1b, 1c, and 1d.

Hypothesis 1e is supported by Ettie Zilber’s (2009) work in Third Culture Kids – The Children of Educators in International Schools. Zilber’s studies support the idea that experiences of international school teachers can be profoundly impacted by the enrollment of their dependents at the same school. Finally, Hypothesis 2 is based upon studies which showed that local-hire employees who were more dissatisfied with split labor market conditions were less likely to work collaboratively with their foreign-hire colleagues (Bonache et al., 2009; Mahajan, 2011).

In addition to choosing which variables would be tested, I set further delimitations when defining my population and sample frame. As discussed in Chapter 3, the population included local-hire teachers from a single, large organization which manages a district of international schools in multiple countries. All participants came from one of seven schools located in the same geographic region. The sample frame is representative of the larger population in that all participants are full-time, local-hire, classroom teachers. I only surveyed local-hire teachers with full-time, classroom positions. Hence, part-time teachers, paraprofessionals, or teaching
assistants were excluded from the results. Furthermore, I also excluded any local-hire employees who work as support staff such as administrative assistants, receptionists, or custodians.

Finally, I drew my delimitations to include all categories of local-hire teachers in this study. Described below, these categories were host-country nationals and local-hire expatriate teachers. Although disaggregated data may have indicated that these two groups had unique experiences, there is very little literature published about the two distinct groups. Therefore, I was not comfortable hypothesizing about their individual, potentially different experiences. Nor did I feel one subcategory should be excluded from this study. Although this increased the heterogeneity of my sample’s characteristics, it also allowed the sample to be more representative of the overall population of local-hire teachers.

Potential Contributions of the Research

The results of this study may accomplish two major things. First, they fill a hole in the existing scholarly literature related to the experiences of local-hire teachers in international schools. Second, the results provide basic data and a model which international schools may use to address possible feelings of compensation unfairness among local-hire teachers. Thus, this study enables international school administrators to better examine and mitigate the potentially negative effects of split labor market practices.

As in any situation of perceived social injustice, there is a moral imperative to examine how these unequal circumstances affect the subjugated group. Because I work in a split labor setting, I felt an ethical obligation to investigate how local-hire teachers perceived their working conditions. Thus, this study benefits both me and my colleagues by providing a voice for local-hire teachers to express their feelings about working in a split labor market. My hope is that it
may also lead to systems which encourage increased collegiality and support between local- and foreign-hire teachers.

**Summary**

Within this chapter, I described the split labor market setting which commonly exists in international schools. I briefly defined split labor markets and explained why this situation might have negative effects on a workplace. To address this problem, I proposed two research questions, each with corresponding hypotheses. In Chapter 2, I provide more details about previous research and the established models that support my questions and hypotheses.
Chapter 2: Review of the Literature

Introduction

Split labor markets are the norm at most international schools. Despite this, a dedicated search of academic data bases (such as EBSCO and ERIC) and journals revealed that extremely little has been published about the experiences of local-hire teachers who work in this system. Because of the paucity of existing research, the following literature review explores a wider range of related studies. Very few of the reviewed studies directly address the focus of this study in its entirety. However, they each partially pertain to the overall theme: split labor market practices and the experiences of local-hire teachers at international schools. After revisiting and discussing key terms, this review of literature examines studies which may be categorized into four major topics:

A. Standard Hiring Practices and Compensation Packages at International Schools. This section identifies the standard hiring and compensation practices of international schools. It also explores how and why these practices are justified.

B. Multinational Companies and the Effects of Split Market Compensation. This section evaluates previous research which investigated the effects of split labor market practices on employees at multi-national companies. It explores the documented effects of perceived compensation unfairness on employee performance and attitudes at these companies. Finally, it presents research that justified the comparison of international schools to other international businesses.

C. Social Models and Ethical Frameworks. This section discusses various social models through which the ethical dimensions of split labor markets may be investigated.

D. Applications to Education. This section examines prior research that connects
teachers’ attitudes to their perceived professional effectiveness. It focuses on
domestic and international studies that link teacher job satisfaction to performance.

**Discussion of Key Terms**

Various studies have provided different labels for the same concepts. As such, several
terms used in this study require a contextual explanation. My choice of terminology is often
motivated by clarity in comparison. For example, *local-hire teacher* and *foreign-hire teacher* are
more obvious antonyms than *host-country national* and *overseas hire teacher*. In other areas, the
choice of definition is a reflection of the delimitations of this study. For example, although
international schools certainly employ part-time teachers and teaching assistants on local-hire
contracts, the experiences of these educators are not examined by this study. What follows is an
expansion of the key terms outlined in Chapter 1.

**Foreign-hire teachers.** The individuals referred to as *foreign-hire teachers* are
alternately referred to as *overseas hire expatriates* (Garton, 2000), *expatriate teachers* (Odland &
Ruzicka, 2009), and *overseas hire teachers* (Deveney, 2007). For the purpose of this study,
*foreign-hire teachers* are defined as full-time educators at international schools who are
employed on foreign-hire contracts which include higher salaries than their local-hire colleagues.
The compensation package of foreign-hire teachers often includes additional remunerations such
as housing, shipping, furniture, travel, utilities, professional development funds, health
insurance, retirement contribution, tuition for dependents, and a tax-free salary. Foreign-hire
teachers typically possess credentials from English-language institutions. They often speak
English as a native language. This general definition is similar to those used by the studies cited
above.
**International school.** In this study, the term *international school* was used to describe a private, English-language school, which exists in a country where English is not necessarily an official language and that does not exclusively follow the public curriculum of the host-country. This definition is generally consistent with that of many international school scholars such as Hayden et al.’s (2002) definition in their book *Introduction to International Education: International schools and their Communities*. This definition was chosen because it best describes the type of international school whose employees participated in this study.

It should be noted that within the field of comparative international education, the term *international school* is used interchangeably to describe both domestic and foreign schools with various focuses such as multilingualism, global values, and preparation for foreign university systems (Phillips & Schweisforth, 2014). In this study, international schools were considered international for two major reasons. First, these schools are typically not located in an English-speaking country (such as the USA, UK, Canada, or Australia). Second, despite their location, these schools are designed to prepare students for eventual entry (or re-entry) into an English-language educational system. As such, the curricula, instructional design, and structure of international schools are often quite different from those of the host country’s local schools.

**Local-hire teachers.** Local-hire teachers are often referred to as *local hires* (Odland & Ruzicka, 2009). For the purpose of this study, the term encompasses all full-time, international school teachers who are employed with a “local-hire contract.” Local-hire contracts typically compensate teachers on a significantly lower pay scale than that used for foreign-hire contracts. Additionally, local-hire teachers rarely receive the same benefits as their foreign-hire colleagues such as: housing, travel expenditures, visa support, tuition for dependents, and shipping fees.
It should be noted this is not an entirely homogeneous group. Garton (2000) aptly sorts local-hire teachers into two groups: *host-country nationals* and *local-hire expats*. Host-country national teachers live and work in their home country or region. They are often citizens of the country in which their international school operates. Conversely, although local-hire expats have local-hire contracts, these teachers are not living in their home country. For example, an Indian teacher who is employed on a local-hire contract at an international school in China is consistent with this definition of local-hire expat. As described below, the population of this study included both categories of local-hire teachers. However, data from the two groups was disaggregated and examined for different trends during analysis.

**Perceived compensation fairness.** This is the extent to which local-hire teachers feel their overall compensation to be "fair." A high perception of compensation fairness indicates the local-hire teacher feels their compensation is very reasonable. *Perceived compensation fairness* is a term is taken from Chen et al.’s (2002) study of Chinese nationals working at international joint ventures (IJVs). Functionally, this term is equivalent to *pay unfairness* which is used by Bonache et al. (2009) in their similar study of host country national employees at multinational companies. The origins of this term are discussed further in the review of literature.

**Perceived compensation differential.** This is the amount by which local-hire teachers perceive their compensation packages to exceed or lag behind that of a specified social-referent teacher. In the context of this study, the social-referent teacher may be a foreign-hire colleague, a local-hire teacher at another international school or a teacher at a local school. Overall, this definition is similar to the term *compensation differential* which is used in the work of Bonache et al. (2009). Addition of the word *perceived* acknowledges the body of research which indicates that perception of a compensation differential is an important component when determining
feelings of compensation fairness (Pritchard, Dunnette, & Jorgenson, 1972). These theories are further discussed in the subsequent review of literature.

**Standard Hiring Practices and Compensation Packages at International Schools**

As international globalization has increased over the past hundred years, so have the number of English-language international schools. International industries, state departments, military needs, non-profit organizations and religious missions have all created large populations of mobile expatriate families. These families desire a high-quality, English-language education for their children. Hence, private, K - 12 international schools are often designed to serve their needs (Hayden et al., 2002).

The type of international school examined by this study may additionally serve students who are host-country citizens, however, they do not utilize the standard curriculum of the host country. This is because the international school’s primary purpose is to provide an English-language education for the children of expatriates. Part of the mission of the international school is to provide these mobile students with the opportunity to successfully repatriate to their home country or attend an English-speaking university (Phillips & Schweisforth, 2014).

As previously noted, teachers at international schools are commonly divided into two groups: *foreign-hire* and *local-hire*. This distinction allows employers to categorically determine each teacher’s compensation package (Canterford, 2003; Hayden et al., 2002). Standard compensation packages for foreign-hire teachers vary but may include items such as: tax-free salary, visa support, furnished housing/housing allowance, travel expenditures, shipping, overseas adjustment allowances, free/reduced tuition for dependents, health insurance, retirement, and contract renewal/completion bonuses (Canterford, 2003; Hayden et al., 2002; The International Educator, 2016; Search Associates, 2017). The standard compensation
packages of local-hire teachers also vary but often consist of much lower salaries. Likewise, local packages rarely include the benefits afforded to foreign-hire teachers (Caffyn, 2010; Canterford, 2003; Hayden et al., 2002).

These split labor market practices are condoned by several different economic models and perceptions. First, there tends to be a preconceived notion amongst the consumers of international education (parents and students) that expatriate international teachers are better trained and/or more qualified than local-hire teachers (Canterford, 2003; Schwindt, 2003). Contrarily, there is a lack of literature which supports the validity of this perception. In fact, some publications argue that local-hire teachers are actually more effective in a number of ways. For example, local-hire teachers tend to be bilingual, and bi-cultural and well-connected to the local community. All of these traits are highly valued and actively promoted in international school communities (MacKenzie, 2009).

Similar to the first point, parents who send their children to international schools regularly express a preference for foreign-hire, native English-speaking teachers. This preference is often attributed to the perception that native English-speaking teachers might also have more relevant experience preparing their students for English-speaking universities and employment (Canterford, 2003; Hayden et al., 2002).

Furthermore, the perceived success of an international school is often related to its ability to recruit and retain foreign-hire teachers (Färber & Sutherland, 2006; Mancuso et al., 2010). Given the perceptions cited above, it follows that an international school would dedicate a large amount of its resources to recruiting and retaining its foreign-hire staff.

Finally, research indicates that quality employees could be drawn to work in otherwise unattractive locations by providing increased incentives (Bradford, Berman & Hill, 2009;
Coleman, 2003; Raphael & Riker, 1999). Although the “attractiveness” of a work location is purely subjective, it could be argued that schools in regions with political and/or economic instability might find it difficult to attract qualified foreign-hire staff. In other words, by offering generous hiring packages, international schools might be able to better recruit expatriate teachers who would not otherwise choose to live and work in a particular region of the world.

The use of split labor market compensation in international schools is a widely-established practice and may lead to situations in which local-hire teachers feel undervalued as employees (Hayden et al., 2002). As such, Hayden et al. advise:

Such issues need to be handled with sensitivity and wisdom, as the head [of the international school] and board [of directors/advisors] tread a fine line between respecting the contribution of all colleagues, supporting the school’s mission (if it has such a mission) of promoting respect for all regardless of cultural, national or linguistic background, and providing appropriate role models for a multicultural student population, but at the same time responding to the (perhaps sometimes unpalatable) wishes of the parents whose fees finance the running of the school. (pp. 81-82)

Hayden et al. go on to note that, although desirable, simply improving the salaries of local-hire teachers may not be fiscally possible for many international schools. This is because international schools are typically privately-funded, for-profit institutions, which carry a unique burden to balance their fiscal needs with their educational responsibilities.

**Multinational Companies and the Effects of Split Market Compensation**

Although literature pertaining to the experiences of teachers in a split labor international school market is scarce, several published studies examined the experiences of local-hire employees at non-academic, multinational companies (MNCs). Overall, these studies showed
that split labor market practices had a negative impact on the attitudes, well-being, and collaborative efforts of local employees at multi-national companies (Bonache et al., 2009; Mahajan, 2011). These reports also documented that local-hire employees who perceived their compensations to be unfair also showed decreased desires and efforts towards communication and collaboration with their international colleagues (Bonache et al., 2009; Mahajan, 2011).

A 2009 study by Bonache et al., investigated the experiences of local-hire employees at multinational companies who, despite similar qualifications and job responsibilities, were paid significantly less than their expatriate counterparts. The study concluded that these compensation differentials heightened feelings of unfairness amongst local employees. These feelings then led to decreased performance results and higher rates of attrition amongst local-hire staff. Notably, this study also documented that feelings of self-worth and happiness were depressed among the local staff in this split market setting.

As a self-reported flaw, Bonache et al. (2009) admitted the focus of this study was limited to “qualified” local employees. This apparent weakness, however, actually increases the transferability of this study to a population of local-hire teachers at an international school who have all been educated and trained to teach.

Mahajan’s (2011) study also highlighted the negative effects of fragmenting co-workers into groups defined by nationality. The resulting problems included an unwillingness of local staff to cooperate with their international co-workers as well as inciting counterproductive and antagonistic behaviors. Mahajan noted that these issues were particularly magnified when there did not appear to be a “reasonable justification” (p. 121) for the split market compensatory practices.
Several authors also indicated that fragmenting of co-workers can lead to increased feelings of ethnocentricity (Florkowski & Fogel, 1999; Mahajan, 2001; Templer, 2010). These studies note that an “us-versus-them” mentality is nurtured in split market work forces, leading to negative work-place outcomes. For example, Florkowski & Fogel (1999) collected data which supported their hypothesis that “perceived host ethnocentrism will impact negatively on expatriates’ work adjustment, host commitment and parent [organization] commitment as well as increase the desire to return early from overseas assignments” (p. 783).

Subsequent work by Toh and Denisi (2007) and Templer (2010) echoed this idea that the support and attitudes of local employees are directly related to the longevity of foreign employees. This topic is relevant to the international school setting, as several authors note constant turn-over of foreign-hire teachers to be one of the top challenges faced by international schools today (Färber & Sutherland, 2006; Mancuso et al., 2010; Odland & Ruzicka, 2009).

Social Models and Theoretical Frameworks used to Examine Split Labor Markets

This section attempts to create a bridge between the existing issue of split labor markets in international schools and the ethical implications of this practice. It initially looks at how Adams’ theory of Social Equity (1963) might be applied to split labor markets. Then it examines the relationship between local-hire teachers’ feelings of unfairness and their choice of social referent.

Social Equity Theory. First introduced in 1963, Adams’ Theory of Social Equity examines how individuals arrive at the conclusion of whether or not a situation is fair. Specifically, Adams purports one’s perception of equity in a given situation is comparable to an accountant’s sum at the bottom of a balance sheet—the overall total being affected by both inputs and outputs. Whether or not a situation is deemed fair is the final judgment made after all
the inputs and outputs have been weighed and tallied. When explaining this concept, Adams emphasizes that inputs and outputs “are not necessarily isomorphic with those of the other party to the exchange” (1963, p. 423). Thus, in any given exchange, the perceptions of the giver might not match those of the receiver. For example, one person may give a meaningless gift which they feel has little value. However, the recipient may value this gift as priceless.

Throughout this section, the term input is used in reference to any efforts an employee puts into their job. Output describes anything this employee receives in exchange for these efforts. In an international school setting, teachers might see their inputs as the time and energy dedicated to lesson planning, grading, extra-curricular activities, discipline, and student motivation. Inputs might also be seen as efforts at collaboration, parent communication, and professional development. As an output from this exchange, teachers expect to receive both monetary and non-monetary remunerations such as salary, medical insurance, praise, job security, and/or community recognition.

The fundamental concept of Social Equity theory is tied to the value of these inputs and outputs. Should an employee deem the value of their inputs to greatly outweigh the value of the outputs they are receiving, the employee will identify their situation as unfair (Adams, 1963). Thus, at an international school where both local- and foreign-hire teachers have the same job responsibilities (input), and yet receive different levels of compensation (output), it is likely that an awareness of inequity will arise.

At this point, it is necessary to reemphasize that the value each employee ascribes to the inputs and outputs of their job is entirely subjective. Hence, the same employment arrangement that feels fair to one teacher, could feel unfair to another. Various factors might influence the individually-assessed values of these tangible and intangible inputs/outputs. For example, it has
long been accepted that teachers are often intrinsically motivated to enter the educational field. While some professions primarily draw workers who are externally motivated by salary, teachers may not cite salary as the most important output of their job. Indeed, some teachers might define their job’s primary output as the positive experience of helping students succeed. Because of this, it might be assumed that, compared to other professions, teachers are willing to input more work while receiving lower salaries without labeling their employment situation as unfair.

At international schools, the intrinsic motivations of local-hire teachers might certainly offset perceptions of diminished output—resulting in local-hire teachers who are happy with the equity balance of their job. This could especially be true if the local-hire teachers earn more than teachers generally earn at local host-country schools.

Even so, studies of split labor markets in international businesses reveal feelings of unfairness and unhappiness among local employees (Bonache et al., 2009; Toh & Denisi, 2003). If an employee is being compensated for their work at a fair market rate—compared to other local workers in the economy—why do feelings of inequity still arise? The answer lies in a body of research known as comparison theory.

**Referent Selection and Comparison Theories.** Functionally, Referent Selection theory is intended to predict the social referent an individual will choose when assessing their personal circumstances (Kulik & Ambrose, 1992). In other words, to whom will individuals compare themselves when judging the equity of their personal situations? Choice of social referent is a critical component in determining the subjective value of the inputs and outputs which was introduced in the last section (Bonache et al., 2009; Oltra, Bonache, & Brewster, 2013). For example, a local-hire teacher might note that she teaches 30 class periods per week. How this input compares to the teaching load of other teachers (whether local- or foreign-hire) will
naturally affect the intrinsic value the local-hire teacher ascribes to these hours in the classroom. Likewise, when analyzing the value of a given salary, local-hire teachers will also compare their compensation to that of other teachers. This matters because individuals have been shown to judge the exact same situation as fair or unfair based upon their choice of social referent (Pritchard et al., 1972). Thus, to better understand the experiences of local-hire teachers, this question must be asked: In a split labor international school market, to whom are local-hire teachers most likely to compare themselves when examining the equity of their work situations?

Several comparison theory models might be applied in order to answer this question. However, this review of literature makes use of Kulik and Ambrose’s (1992) version of Referent Selection Theory—a subset of comparison theory. This model was chosen because it was developed relatively recently and is quite comprehensive. Each of its propositions incorporates the findings of earlier comparison theory models. This allows the Kulik-Ambrose model to examine nine different variables which might affect an individual’s choice of social referent. These nine factors may be used to predict whether an individual will choose internal, self-references (comparing themselves to individuals who share similar demographics) or external-references (comparing themselves to individuals who do not share common demographics).

Referent Selection Theory was utilized in a 2009 study by Bonache et al., which investigated the experiences of local-hire employees at split labor multinational companies. This quantitative study attempted to link employees’ feelings of fairness to their choice of social referent. It hypothesized that local-hire employees who fit the profile of individuals more likely to choose external social referents (e.g., their foreign-hire colleagues) were also more likely to report feelings of unfairness at work. Indeed, in several instances, this hypothesis was upheld.
For instance, local-hire employees who worked in close professional proximity to their foreign-hire counterparts reported lowered feelings of fairness associated with their jobs.

Table 1 summarizes the nine components of Kulik and Ambrose’s (1992) Referent Selection Theory and how they might predict local-hire teachers’ choices of referents at international schools. The predicted social referent of choice is based on a general, qualitative analysis of the demographics of the population used for this study. These demographics are further discussed in Chapters 3 and 4.

Table 1: Referent Selection Theory as Applied to Local-hire International School Teachers

<table>
<thead>
<tr>
<th>Workplace variable</th>
<th>Proposition</th>
<th>Predicted social referent of choice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex-integration</td>
<td>Individuals in integrated fields will make more cross-sex comparisons than those in sex-segregated fields</td>
<td>n/a</td>
</tr>
<tr>
<td>Race-integration</td>
<td>Individuals in desegregated conditions will make more cross-race comparisons than those in segregated conditions</td>
<td>Foreign-hire Teachers</td>
</tr>
<tr>
<td>Age</td>
<td>Individuals under the age of 65 will make more other-comparisons than individuals over the age of 65</td>
<td>Foreign-hire Teachers</td>
</tr>
<tr>
<td>Tenure</td>
<td>Individuals with longer tenure will make more other-external comparisons than individuals with less tenure</td>
<td>Foreign-hire Teachers</td>
</tr>
<tr>
<td>Position/Rank</td>
<td>Upper level individuals will make more other-external comparisons than lower level individuals</td>
<td>Local-hire Teachers</td>
</tr>
<tr>
<td>Profession</td>
<td>Professionals will make more other-external comparisons than nonprofessionals</td>
<td>Foreign-hire Teachers</td>
</tr>
<tr>
<td>Extrinsic/Intrinsic</td>
<td>Individuals comparing extrinsic facets will make more other-comparisons than individuals comparing intrinsic facets</td>
<td>Foreign-hire Teachers</td>
</tr>
<tr>
<td>Procedural Stability</td>
<td>Individuals experiencing a procedural change will choose more self-past referents than individuals who do not experience a procedural change</td>
<td>Local-hire Teachers</td>
</tr>
<tr>
<td>Proximity to Social Referent</td>
<td>Physical working proximity overrides demographic similarities when choosing a social referent.</td>
<td>Foreign-hire Teachers</td>
</tr>
</tbody>
</table>
As illustrated in Table 1, when Referent Selection Theory is applied to an international school, it predicts that local-hire teachers may likely choose foreign-hire teachers as their social referent. In fact, six of the nine components of this model predict a choice of external social referents. In the split labor market of international schools, if local-hire teachers compare their work situation to that of foreign-hire teachers, this will predictably lead to feelings of inequity. As noted before, while the inputs of local- and foreign-hire teachers at international schools might be similar, the outputs are drastically different. Thus, if a local-hire teacher uses a foreign-hire teacher as a social referent, the local-hire teacher will inevitably judge their personal output (compensation package) as lacking.

Applications to Education

Several business models which justify split labor market practices in international schools were discussed in the preceding section of this literature review. In fact, in The International School Industry: Examining International Schools through an Economic Lens, MacDonald (2006) argues that many business theories can and should be directly applied to international schools because these schools operate as a “multi-billion dollar industry” (p. 191). In her article, What Makes an International school?, Cynthia Nagrath (2011) notes, “International K-12 education is a big business—with annual income of approximately $27 billion dollars (US) a year, employing over 270,000 teachers and administrators” (p. 1). However, unlike their business-sector counterparts, international schools must balance fiscal responsibilities with the ethical obligations of an educational institution. The wide-spread use of split labor markets at these schools clearly speaks to their fiscal responsibilities. Whether or not this practice also supports best practices in education will now be explored.
Skaalvik and Skaalvik (2011) measured the relationships between contextual school variables and feelings of job satisfaction in over 2,500 elementary and middle school teachers. Among other things, their subsequent quantitative analysis showed correlations between relationships with colleagues and levels of job satisfaction. As discussed in previous sections, split labor markets often lead to strained relations between factions of colleagues. Skaalvik and Skaalvik’s (2011) work supports the idea that these strained relations might also decrease feelings of job satisfaction.

Further research consistently demonstrates a correlation between professional satisfaction and perceived job efficacy. For example, Aldridge and Fraser (2016) surveyed 781 Australian high school teachers at nearly 30 schools in their study, Teachers’ Views of their School Climate and its Relationship with Teacher Self-efficacy and Job Satisfaction. This quantitative study demonstrated a positive relationship between teacher self-efficacy and job satisfaction.

In 2014, Gkolia, Aikaterini, Belias, Dimitrios, and Koustelios discussed the results of over 50 different quantitative studies in Teacher’s Job Satisfaction and Self-Efficacy: A Review. Notable among this review are studies which demonstrated that teachers with high levels of self-efficacy tended to be more committed and more effective at motivating their students (Coladarci, 1992; Reyes & Shin, 1995). Additional studies showed that teachers with high job satisfaction were also more enthusiastic and had higher levels of self-efficacy (Caprara, Barbaranelli, Borgogni, & Steca, 2003; Caprara, Barbaranelli, Steca, & Malone, 2006).

A small-scale, classic example of this phenomenon is the 1973 work of Greenwood and Soar, which used the Purdue Teacher Opinionnaire (Bentley & Rempel, 1972) to measure morale among 39 elementary teachers in the USA. Greenwood and Soar’s work supported a positive correlation between aspects of good teaching and positive teacher morale. For instance, this
study showed that the more content and confident a teacher felt, the less time they spent talking “at” their students. The students of happy teachers were given more opportunities to discuss and learn actively. These students spent less time passively listening to the teacher lecture.

Färber and Sutherland (2006) reiterated that the same correlation held true for international teachers. They noted that happy, motivated international school teachers were simply more successful. Contented teachers improved the school climate and created happy, motivated, students. Likewise, in 2006, Ololube showed that teachers in Nigeria were most highly motivated and satisfied with their jobs when the following were present as positive factors in their employment: job security, working conditions, and the opportunities to grow and reach personal potential.

High rates of teacher turnover are regularly cited as a leading challenge to productivity and effective teaching at international schools. Regular turnover interrupts student learning, faculty collaboration, and forces the school to spend time and money recruiting and training new hires (Färber & Sutherland, 2006; Mancuso et al., 2010; Odland & Ruzicka, 2009). In a study which looked at both local- and foreign-hire teachers, Odland and Ruzicka (2009) demonstrated that dissatisfaction with compensation was one of the top three reasons for teacher attrition at international schools in Asia. Hence, it can be supposed that if split labor markets are contributing to compensation dissatisfaction, then split labor markets may also be connected to one of the largest difficulties of modern international schools – teacher turnover.

**Implications for Further Research**

Because of the lack of available literature related to local-hire teachers in international schools, there is a need for further research in this area. Certainly, a repetition of certain quantitative studies in an international school setting is warranted. This kind of study might
establish two things: 1) local-hire teachers regularly choose foreign-hire teachers as their social referent, and 2) local-hire teachers have heightened feelings of compensation unfairness in their workplace. Qualitative studies which document the individual voices and experiences of local-hire teachers are also a critical step towards documenting this situation. Bartlett’s qualitative work which is documented in her 2014 book *Migrant Teachers* would be an appropriate format to follow.

**Conclusions**

Four major points may be taken from the preceding review of literature. First, split labor markets exist between local- and foreign-hire teachers at international schools. This practice is sustained because international schools must balance their financial viability with the unique demands of the international school community (Hayden et al., 2002). Second, in non-academic international companies, split labor market practices lead to negative feelings and dissatisfaction amongst local employees (Bonache et al., 2009; Mahajan, 2011). This is important, because it is reasonable to compare international schools to these business models (McDonald, 2006). Third, multiple social theories and frameworks exist which explain why split labor markets might lead to negative experiences and low feelings of compensation fairness by local-hire teachers (Kulik & Ambrose, 1992; Toh & Denisi, 2003). Fourth, teacher job satisfaction directly relates to teacher commitment and performance (Firestone & Pennell, 1993; Greenwood & Soar, 1973).

Thus, although the wide-spread use of split labor markets may satisfy international schools’ fiscal needs, it may simultaneously undermine these school’s educational goals. This divisive practice creates a hierarchical class system amongst employees. If this situation results in the dissatisfaction of locally hired teachers, then international schools potentially run the risk of decreasing their productivity.
Chapter 3: Methods

Introduction

This study collected data in order to examine if and how various factors correlate with local-hire teachers’ feelings of compensation fairness and willingness to collaborate with and support foreign-hire staff. Data was gathered by surveying a sample of local-hire teachers who worked at one of seven international schools in the Asian region of International School District (ISD). (Note: A pseudonym has been used to protect the identity of ISD). Survey responses were then analyzed to examine the validity of Hypotheses 1a-f and 2. Subsequent sections in this chapter describe the research design, sampling process, administration of data collection, variables and measurement tools, analytical procedures, and ethical considerations of this study. All aspects of this study were guided by the following research questions:

1. What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and:

   a. their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school?

   b. their perceived difference between personal compensation and compensation of local-hire teachers at different international schools?

   c. their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country?

   d. their perception of contributions made by foreign-hire teachers?

   e. whether or not a tuition-waiver is received so that their dependents may attend the international school in which they work?

   f. their perception of systems of communication and promotion?
2. *What is the relationship between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers?*

**Research Design**

A quantitative exploratory methodology was employed throughout this study, because the purpose of this research was to identify and describe possible links between variables rather than to determine precise causalities. As such, the research design may be defined as exploratory and descriptive rather than explanatory or evaluative (Nardi, 2014).

As noted in Chapter 2, many studies have already inquired into the experiences of local-hire employees at multi-national companies and the factors that correlate to such variables as feelings of compensation fairness. However, these studies were not conducted in educational settings. Therefore, rather than assuming the results of previous studies may be transferred to a population of local-hire teachers at international schools, the present study re-examined this topic by collecting data directly from a population of local-hire teachers.

For the purpose of data collection, this study distributed a modified version of a survey that was already used in previous survey research (Bonache et al., 2009). The details of this survey and its modifications are discussed in the *Instrumentation* section of this chapter. Employing a survey research methodology is appropriate for several reasons, including the ability to access a larger population, provide anonymity, ask sensitive questions, and measure attitudes and opinions (Nardi, 2014).

**Sampling and Participant Selection**

**Population.** The population identified for the purpose of this study was local-hire teachers who work for International School District (ISD). ISD is a private, secular organization which manages nearly 50 international schools in over different countries across five continents.
According to The International Educator (2016), over 900 K – 12 international schools are currently in operation worldwide. Examining the entire global population of local-hire, international school teachers was a task far too large and wide-spread for the scope of this study. Hence, it was necessary to identify a smaller, more accessible population from which a sample could be chosen.

One solution was to select a smaller group of local-hire teachers who work for the same organization. Identifying a group who worked for the same organization created a more manageable population size and allowed control over internal variables such as job expectations, employee benefits, and salary scales. As an employee of ISD, I had access to the local-hire teachers working throughout this network of schools.

**Sampling Frame.** From within this population of ISD local-hire teachers, a sampling frame was purposively defined to include individuals who were full-time teachers. Local-hire teachers who worked part-time or as classroom assistants (support teachers) were excluded from this study. These parameters were set in order to purposefully examine the experiences of local-hire teachers who had the same job responsibilities as their foreign-hire counterparts. ISD does not offer foreign-hire contracts to classroom assistants. There are also relatively few ISD foreign-hire teachers who work part-time.

Additionally, all individuals in this study’s sampling frame worked at schools in ISD’s Asian Region. As shown in Table 2, this region contained seven schools which varied in size from approximately 20 – 500 students. During the 2016-2017 school year, these seven schools employed a total of approximately 140 full-time, local-hire teachers (n ≈ 140). The study was limited to teachers from a specific geographic area primarily because I had the best access to teachers in the Asian region.
Table 2: *ISD Asian Schools*

<table>
<thead>
<tr>
<th>Country</th>
<th>School</th>
<th>2016 – 17 Student Enrollment</th>
<th>Estimated Number of Local-hire Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country A</td>
<td>International School A1</td>
<td>23</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>International School A2</td>
<td>158</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>International School of A3</td>
<td>236</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>International School A4</td>
<td>492</td>
<td>48</td>
</tr>
<tr>
<td>Country B</td>
<td>International School of B</td>
<td>82</td>
<td>15</td>
</tr>
<tr>
<td>Country C</td>
<td>International School C</td>
<td>95</td>
<td>12</td>
</tr>
<tr>
<td>Country D</td>
<td>International School D</td>
<td>233</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>n = 140</strong></td>
<td></td>
</tr>
</tbody>
</table>

The majority of these local-hire teachers were women. Their ages ranged from 25 – 65. Of the total participants, 90% had a bachelor’s degree, and 40% of all survey respondents also had a master’s degree. Valid teaching licenses were held by 80% of participants. These teachers worked with a range of ages (pre K – 12th grade) and taught a variety of subjects such as English, history, mathematics, foreign languages, art, music, PE, and technology.

**Sample.** Recruiting of participants from within the sampling frame occurred at the same time the survey was distributed. Individuals who completed the survey were recorded as participants. This kind of self-selection strategy is advantageous because it simplifies the recruiting process. Furthermore, it is not necessary to search out participants who meet the desired criteria, and self-selected participants are often more willing to participate in research studies (Lærdd Dissertation, 2012). However, self-selection sampling is also vulnerable to *self-selection bias* (Lærdd Dissertation, 2012) in which an individual’s choice to participate might be
an indication of a particular trait or predisposition. Participants may have been further subjected to self-selection bias if they knew me and chose to participate in the survey due to our personal relationship. When self-selection bias occurs, the actual traits and experiences of a sample may not be representative of the population. Also, key findings may be missed or exaggerated (Nardi, 2014).

Instrumentation

The instrument employed by this inquiry is an adaptation of the survey used by Bonache et al. (2009) in their study *The Interaction of Expatriate Compensation Differential and Expatriate Inputs on Host-country Nationals’ Pay Unfairness*. Appropriate permissions and a copy of the original survey were obtained directly from the author via e-mail (J. Bonache, personal communication, January 11, 2016). The original survey consists of sixteen numerated questions and was designed to explore the split labor market phenomenon in multi-national organizations. It may be found in Appendix A.

Because the original survey was not conducted in an educational setting, some modifications were necessary to make the assessment applicable to local-hire teachers in an international school. For example, Bonache et al.’s (2009) original survey asked participants to “think of an *expatriate* [emphasis added] with whom you have worked.” The modified survey asked participants to “think of a *foreign-hire teacher* [emphasis added] with whom you have worked.” Furthermore, unlike the original survey, the modified demographics section asked questions about educational background and presence or absence of a teaching license. These factors are important, because they are often used to determine placement on educational salary scales. Finally, a single free-response item was added at the end of the survey. This item invited participants to comment on their personal experiences as local-hire teachers working at an
international school. The responses to this question were not included in data analysis. Rather, they were used to further illuminate the overall research topic and will be discussed in Chapter 5. The complete, modified survey used in this study may be found in Appendix B.

As noted in Chapter 1, a major limitation of this study is the fact that the tool was not thoroughly validated. The issue of individual item validity was further complicated by the fact that most participants did not speak English as a native language. Brislin (1970) and Casado, Negi, and Hong (2012) describe the importance of participants accurately understanding each question when being surveyed in their non-native language. As a solution to this potential problem, Brislin (1970) developed a method of translation and back-translation which is widely accepted as an appropriate process for validating surveys offered in multiple languages (Casado et al., 2012). Although the survey used in this study was only offered in English, a portion of Brislin’s methodology was used when the survey was pre-tested with a think-aloud process.

Pre-testing took place at three separate times with small groups of local-hire employees from ISD’s Almaty International School. All pre-test participants were demographically similar to those in the defined sampling frame. They were local-hire employees at an international school. They represented a wide range of ages (22 – 43 years) and taught students of various grade-levels (pre-K – 12th grade) and content areas (such as pre-school, art, and library). Despite this, each pre-test participant was individually excluded from the actual study due to their status as a part-time teacher and/or teaching assistant. As a result, these individuals were able to offer appropriate feedback without diminishing the ultimate sample size of the study. No pre-test participants were native English speakers. This made their feedback especially valuable in terms of identifying portions of the survey in which the wording was difficult to understand.
Pre-testing was conducted through the use of a think-aloud methodology. This involved participants completing the survey aloud while explaining their interpretation of questions and answers. Participants were specifically asked to note unclear or confusing questions or directions. Think-aloud methodology allowed me to improve the face validity of the survey by addressing areas in which the participants’ understanding of a particular item did not appear to match the intended meaning (Collins, 2003).

The first pre-test session included only one participant. After this session, the survey was slightly modified to clarify areas of confusion. For example, Question 19f originally asked participants if they perceived a high or low sense of “job security.” The participant in the first round of pre-testing interpreted this item as if it were asking about her perception of personal safety at work. As a result of the think-aloud process, this item was modified to read, “I worry about losing my job.” The second round of pre-testing included two different participants. When these new individuals were presented with the clarified version of Question 19f, they understood the intended meaning without additional explanation.

Throughout pre-testing, this kind of process was repeated as necessary for all confusing items on the survey. The third round of pre-testing included two new participants. They did not identify any areas of confusion or misunderstanding. Therefore, it was determined that the survey was ready to be used with the intended population.

As a final precaution against linguistic misunderstanding, Question 5 asked participants to respond to the statement, “I am comfortable completing this survey in English.” Individuals who answered “no” were directed to a page which thanked them for their time and concluded the survey without collecting further data.
Administration of the Survey

In order to maximize sample size, the ISD Asian regional office and the administrators of the seven schools in this region were enlisted to help recruit participants. First, the regional office sent an invitation to the administrators (directors) of each regional school. The e-mail requested administrators to then forward this invitation to all local-hire teachers at their school. Communication through administrators is common practice within the ISD Asian region and is regularly used to disseminate information and collect data among teachers.

After receiving a link to the online survey via e-mail, participants completed the survey electronically. Responses were collected using the Google Forms online tool. The survey could be completed at any time of day and in any setting. It remained open to collect responses for a two-week period, and after the first week, a reminder e-mail was sent. IP addresses and other digitally identifying information were not collected. This protected the anonymity of all participants and is discussed further in the section on ethical considerations. Responses were stored in a password-protected file and will be destroyed within three years of this study.

Variables and Measures

The final, modified survey collected demographic data and measured a variety of independent and dependent variables. Some demographic questions were reworded or omitted to protect the anonymity of participants. For example, less than 15 participants were expected to be male. Because the sample frame was so small (n = 140), there was serious risk of identifying an individual participant should he indicate himself to be male. Therefore, the question regarding gender was removed entirely.

Variables used to analyze each hypothesis are listed in Table 3. These measures are discussed in greater detail later in this section.
Table 3: Overview of Constructs, Hypotheses and Variables

<table>
<thead>
<tr>
<th>Construct and Abbreviation</th>
<th>Hypothesis</th>
<th>Conceptual Definition</th>
<th>Variables used to Operationalize the Construct</th>
<th>Survey Item(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived difference between personal compensation and compensation of foreign-hire teachers (comp_diff_FHT)</td>
<td>Independent variable in Hypotheses 1a</td>
<td>The amount by which the local-hire teacher perceives their compensation to exceed or lag behind that of the specified social-referent.</td>
<td>Perception of difference between personal compensation and compensation received by foreign-hire teachers in a similar position at the same international school</td>
<td>#12</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local-hire teachers at other international schools (comp_diff_LHT_other IS)</td>
<td>Independent variable in Hypothesis 1b</td>
<td></td>
<td>Perception of difference between personal compensation and compensation received by local-hire teachers in similar positions at other international schools</td>
<td>#14</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country (comp_diff_LT_domestic)</td>
<td>Independent variable in Hypothesis 1c</td>
<td></td>
<td>Perception of difference between personal compensation and compensation received by other teachers who are working at local, domestic schools</td>
<td>#15</td>
</tr>
<tr>
<td>Perception of contributions made by foreign-hire teachers (FHT_contributions)</td>
<td>Independent variable in Hypothesis 1d</td>
<td>The extent to which foreign-hire teachers are perceived to contribute unique inputs to the school.</td>
<td>Perceived level of professionalism displayed by foreign hire teachers</td>
<td>#13a</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perceived level of special knowledge displayed by foreign hire teachers</td>
<td>#13b</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perceived contribution towards maintaining relationships with headquarters and other international schools</td>
<td>#13c</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Perceived extra-curricular contributions of foreign-hire teachers</td>
<td>#13d</td>
</tr>
<tr>
<td>Variable</td>
<td>Hypothesis</td>
<td>Description</td>
<td>Notes</td>
<td></td>
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<td>-------------------------------------------------------------------------</td>
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<td>-----------------------------------------------------------------------------</td>
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<tr>
<td>Whether or not a tuition-waiver is received so that dependents may attend the same international school</td>
<td>1e</td>
<td>Whether or not the participant’s family receives a full or partial tuition waiver so that one or more of their dependents may attend the international school</td>
<td># 10</td>
<td></td>
</tr>
<tr>
<td>Perception of systems of communication and promotion</td>
<td>1f</td>
<td>The extent to which the local-hire employee feels valued and knowledgeable about the mechanisms for promotion and their ability to be promoted</td>
<td>#19 a, e</td>
<td></td>
</tr>
<tr>
<td>Perceived compensation fairness</td>
<td>1a – 1f</td>
<td>The extent to which a local-hire teacher feels their compensation to be fair</td>
<td>#16 a, b</td>
<td></td>
</tr>
<tr>
<td>Willingness to assist and collaborate with foreign-hire teachers</td>
<td>2</td>
<td>The extent to which the local-hire teacher is willing to work with and support their foreign-hire colleagues.</td>
<td>#18 b, c</td>
<td></td>
</tr>
</tbody>
</table>

**Perceived difference between personal compensation and compensation of foreign-hire teachers.** As noted in the Chapter 2 discussion of Social Models and Theoretical Frameworks, an individual’s *perception* of compensation differential is often more important than their *actual* compensation differential when establishing feelings of fairness. Thus, it was essential to examine the construct of *perceived* compensation differential rather than to simply calculate and examine the *actual* pay gaps. Hence, the construct *perceived difference between personal compensation and compensation of foreign-hire teachers* was conceptually defined as
the amount by which the local-hire teacher perceived their compensation to exceed or lag behind that of foreign-hire teachers in a similar position at the same international school.

This construct served as the independent variable in Hypotheses 1a and was abbreviated as *comp_diff_FHT* during data analysis. As in the original Bonache et al. (2009) survey, this construct was tested by a single item which uses a Likert scale of -2 (“far less than my compensation”) to +2 (“far greater than my compensation”) for measurement. Participants also had the option of noting they were “entirely unaware” of foreign-hire teachers’ compensations.

Bonache et al. (2009) justified their use of a single-item measurement tool by citing the meta-analysis of Wanous and Reichers (1997). This study reviewed 17 quantitative studies which examined 7,682 total subjects and concluded that single-item measurement tools appropriately operationalized some psychological constructs. Overall, this study supports the idea that single-item measurements may be used to operationalize global constructs which are narrow and unambiguous to the participant such as *job satisfaction, job performance* and *job intentions*. Wanous and Reichers (1997) provide further evidence that these single-item measurements may be treated with an estimated Cronbach’s alpha value of at least 0.7.

**Perceived difference between personal compensation and compensation of local-hire teachers at other international schools.** This construct was conceptually defined as the amount by which local-hire teachers perceive their salaries to exceed or lag behind that of local-hire teachers at other international schools. It is the independent variable in Hypothesis 1b and was abbreviated as *comp_diff_LHT_other IS* during data analysis.

As in Bonache et al.’s original survey (2009), a single-item question was used to operationalize this construct. However, as noted before, language was slightly modified to better fit the current population. Also, the data collection tool was slightly changed so that
comp_diff_FHT and comp_diff_LHT_other IS were measured on the same 5-point (± 2) Likert scale. This scale asked participants to define the indicated social referent’s compensation package as anywhere from “far less” (-2) to “far greater” (+2) than their own. This change was made in order to address a limitation of the original survey which was noted by Bonache et al (2009). Additionally, one optional answer allowed participants to note that they were “entirely unaware” of the social referents’ compensations. Cronbach’s alpha for this question was established at 0.7 by the original Bonache et al. (2009) survey. As explained above, use of a single-question item to measure this kind of unambiguous variable is justified by the work of Wanous and Reichers (1997).

**Perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country.** This construct was operationalized in the same manner as comp_diff_LHT_other IS. It is the independent variable in Hypothesis 1c and was abbreviated as comp_diff_FHT and comp_diff_LT_domestic.

**Perception of contributions made by foreign-hire teachers.** The extent to which foreign-hire teachers are perceived to contribute unique inputs to the school was addressed by this construct. The original Bonache et al. (2009) survey labeled this construct as expatriate contributions and operationalized it through the examination of three different factors: professionalism, special knowledge, and relationships with the host organization. Cronbach’s alpha for this multi-item scale was reported at 0.7 in the original study.

In the current study, the operational definition of this construct also used the same three factors with nearly identical language. Modifications to wording were made only to better align the questions with an educational setting. Finally, one additional question was added to address the extra-curricular contributions of foreign-hire teachers. Given the unique setting and job
responsibilities of international school teachers, this question was deemed necessary to flesh out the overall construct.

This construct was treated as the independent variable in Hypothesis 1d. During data analysis, it is abbreviated as $FHT_{contributions}$. All four items asked participants to read a statement regarding the contributions of foreign-hire teachers at their school and respond on a 5-point Likert scale which ranges from -2 (“strongly disagree”) to 2 (“agree”).

**Whether or not a tuition-waiver is received so that dependents may attend the international school in which the local-hire teacher works.** This variable was defined as whether or not the participant’s family receives a full or partial tuition waiver so that one or more of their dependents may attend the international school. It was measured by a single question which asks about the presence or absence of a tuition waiver. Participants had the option of responding, “yes,” “no,” or “not applicable.” Dependents receiving tuition waivers is the independent variable in Hypothesis 1e. It was abbreviated as tuition_waiver during analysis of data.

**Perception of systems of communication and promotion.** This construct examined the extent to which local-hire teachers felt personally valued and knowledgeable about the mechanisms for promotion at their international school. It served as the independent variable in Hypothesis 1f and was abbreviated as communication during data analysis. It was operationalized by multiple questions taken from Bonache et al.’s original survey (2009) which measured the employee’s perception of promotion and compensation opportunities available to local-hire employees.

The original questions related to systems of promotion were not modified. However, the questions related to systems of communication were somewhat modified to better fit the setting
of the current study. All seven questions were measured on a 5-point Likert scale which asked participants to indicate how much they agreed or disagreed with various statements.

**Perceived compensation fairness.** Conceptually, this construct addresses the extent to which local-hire teachers feel their compensation to be fair. It is the dependent variable in Hypotheses 1a – 1f. It is the independent variable in Hypothesis 2. During data analysis, it was abbreviated as *comp_fairness*.

As outlined in Chapter 2, the concept of *fairness* is based upon Adam’s Theory of Social Justice. Adams (1963) theorized that individuals decide if a situation is fair or unfair after accounting, tallying, and comparing the various inputs and outputs of the given situation. In the current study, time, energy, experience, training, and expertise which teachers contribute to their job were considered as inputs. The combined components of individual teachers’ compensation packages were considered as the output. This may include salary, sick leave, health insurance, retirement benefits, and more. It was important to ask participants about the multi-faceted concept of *compensation* rather than simply asking about *salary*. This is because Adam’s Theory of Social Justice specifically states that individuals do not disaggregate various components of a situation’s total input or output when deciding if a situation is fair.

Like the original Bonache et al. (2009) survey, the modified survey operationalized the overall construct of perceived compensation fairness by asking questions that may be divided into two categories: performance-based distributive justice and comparative distributive justice. Performance-based distributive justice questions ask participants to consider the fairness of their compensation with regards to the actual work they do. Alternately, comparative distributive justice questions ask participants to consider the fairness of their compensation in comparison to various social referents (Leung, Smith, Wang, & Sun, 1996). Bonache et al. (2009) justified the
use of these variables by citing the work of Leung et al. (1996) who employed a 5-point Likert scale and operationalized compensation fairness with the two factors described above. Like Bonache et al. (2009) and Leung et al. (1996), the current survey measured these questions on a 5-point Likert scale with a range of -2 (“very unfair”) to 2 (“very fair”).

Leung et al. (1996) argued that the use of both performance-based and comparative distributive justice questions are critical to effectively measure an individual’s perception of compensation fairness. Additionally, Leung et al. (1996) cited the work of Rice, Phillips, and McFarland (1990) who successfully supported a hypothesis which stated that employees determine their level of compensation fairness by comparing their actual salary to such factors as deserved salary and social comparisons.

**Willingness to assist and collaborate with foreign-hire teachers.** The extent to which the local-hire teacher was willing to work with and support their foreign-hire colleagues was described by this construct. It served as the dependent variable in Hypothesis 2 and was abbreviated as *willingness_to_assist* in the analysis of data. The six questions used to measure this construct were divided between two measureable variables: *willingness to directly assist foreign-hire colleagues* and *willingness to take on extra, unpaid tasks*. Questions related to the local-hire teacher’s willingness to directly assist foreign-hire colleagues were taken from the Bonache et al. (2009) survey. However, questions measuring the local-hire teacher’s willingness to take on extra, unpaid tasks were added in an attempt to flesh out the full experiences of local-hire teachers.

**Analytical Procedures**

Responses to this survey were automatically collected and recorded by *Google Forms*. SPSS software was then employed to run correlation and multiple regression analyses as
described below. During the analysis of Hypotheses 1a - f, multiple independent variables were considered as potential factors or dimensions which contributed to local-hire teachers’ overall perceptions of compensation fairness. The dependent variable from Hypotheses 1a - f, *perception of compensation fairness*, then became the independent variable in Hypothesis 2. Hypothesis 2 investigated the correlation between local-hire teachers’ perceptions of compensation fairness and their willingness to assist and collaborate with their foreign-hire colleagues.

As previously discussed, the constructs in this study were carefully operationalized by specific, measureable variables. Table 4 provides a consolidated overview of each construct, notes the operationalization, and lists the survey question(s) that measure each variable. Although responses were collected on ordinal Likert scales, they were analyzed by treating the responses as approximate interval data. This approach is accepted in social science and educational research (Linneman, 2011). Any of the 5-point Likert scale items which had a neutral response option (such as “neither fair nor unfair”) was coded as 0 on a scale of -2 to 2. Conversely, answers such as “don’t know” or “unaware” were coded as special missing values. All constructs which were measured by multiple items were calculated as an additive index during data entry.
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Independent Variable</th>
<th>Operationalization</th>
<th>Dependent Variable</th>
<th>Operation -alization</th>
<th>Statistical Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>$(x_1)$ Perceived difference between personal compensation and compensation of foreign-hire teachers</td>
<td>Single-question with five ordinal options on a Likert Scale which will be treated as approximate interval data (#12)</td>
<td>$(y)$ Perceived compensation fairness</td>
<td>Six-question measurement with five ordinal options on a Likert scale.</td>
<td>Forced-entry, exploratory multiple regression</td>
</tr>
<tr>
<td></td>
<td>$(comp_diff_FHT)$</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1b</td>
<td>$(x_2)$ Perceived difference between personal compensation and compensation of local-hire teachers at other international schools</td>
<td>Single-question with five ordinal options on a Likert Scale which will be treated as approximate interval data (#14)</td>
<td>$(comp__\text{fairness})$</td>
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<td></td>
<td>$(comp__\text{diff_LHT_other IS})$</td>
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<tr>
<td>1c</td>
<td>$(x_3)$ Perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country</td>
<td>Single-question with five ordinal options on a Likert Scale which will be treated as approximate interval data (#15)</td>
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<td>$(comp__\text{diff_LT_domestic})$</td>
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<td>1d</td>
<td>$(x_4)$ Perception of contributions made by foreign-hire teachers</td>
<td>Four-question measurement with five ordinal options on a Likert scale. Responses will be treated as approximate interval data and converted to an additive index. (#13 a – d)</td>
<td></td>
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<td></td>
<td>$(FHT__\text{contributions})$</td>
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<tr>
<td>1e</td>
<td>$(x_5)$ Whether or not a tuition-waiver is received so that their dependents may attend the international school in which they work</td>
<td>Single-question with three nominal options. (#10)</td>
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<td></td>
<td>$(tuition_\text{waiver})$</td>
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<td>1f</td>
<td>$(x_6)$ Perception of systems of communication and promotion</td>
<td>Seven-question measurement with five ordinal options on a Likert scale. Responses will be treated as approximate interval data and converted to an additive index. (#19 a – g)</td>
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<td></td>
<td>$(communication)$</td>
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</tbody>
</table>
| 2 | Perceived compensation fairness
   *(comp_fairness)* | Six-question measurement with five ordinal options on a Likert scale. Responses will be treated as approximate interval data and converted to an additive index. (#16 a – f) |
|   | Willingness to assist and collaborate with foreign-hire teachers
   *(willingness_to_assist)* | Six-question measurement with five ordinal options which will be treated as approximate interval data on a Likert Scale (#13a – f) |
|   |   | 1-tailed Pearson's Correlation test |

### Analysis of Hypothesis 1a – f.

*There will be a correlation between local-hire teachers’ perceptions of compensation fairness and the following variables:*

- **a.** their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school
- **b.** their perceived difference between personal compensation and compensation of local-hire teachers at different international schools
- **c.** their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country
- **d.** their perception of contributions made by foreign-hire teachers
- **e.** whether or not a tuition-waiver is received so their dependents may attend the international school in which they work
- **f.** their perception of systems of communication and promotion

In order to analyze the validity of Hypotheses 1a – 1f, exploratory multiple regression analysis was employed. The existing literature is not exhaustive enough to comfortably make a
priori assumptions that predict which independent variables in the model contribute most strongly (if at all) to local-hire teachers’ perceived levels of compensation fairness. Because of this, forced-entry methodology, during which all independent variables were entered in a single step, was used. Throughout the course of analysis, variables were assigned as follows:

- $x_1 = $ perceived difference between personal compensation and compensation of foreign-hire teachers at the same school ($comp\_diff\_FHT$)
- $x_2 = $ perceived difference between personal compensation and compensation of local-hire teachers at different international schools ($comp\_diff\_LHT\_other\ IS$)
- $x_3 = $ perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country ($comp\_diff\_LT\_domestic$)
- $x_4 = $ perception of contributions made by foreign-hire teachers ($FHT\_contributions$)
- $x_5 = $ whether or not a tuition-waiver is received so that dependents may attend the international school in which they work ($tuition\_waiver$)
- $x_6 = $ perception of systems of communication and promotion ($communication$)
- $y = $ perceived compensation fairness ($comp\_fairness$)

Before multiple regression analysis was performed, it was first established that the data met several assumptions (Lærd Statistics, 2012). SPSS software was used to establish the following assumptions as true:

- The independent variables were exhaustive of one another (there was no multicollinearity)
• There was a linear relationship between the dependent variable and each independent variable

• Homoscedasticity existed in that the variations of data were consistent along the line of best fit

• No outlier or unusual points existed

• There was no autocorrelation within the independent variables

• Data residuals adhered to an approximate normal distribution

The overall null hypothesis \((H_0)\) assumed there were no significant relationships between perceived compensation fairness \((y)\) and the combination of the independent variables \((x_1 - x_6)\). Null sub-hypotheses for the individual independent variables predicted that these variables did not individually improve the ability of the multiple regression equation to accurately predict values of \(y\).

The fit of the collected data to the calculated equation was first expressed as \(R^2\) (the coefficient of multiple determination). The value of \(R^2\) may range from 0 (indicating no relationship between the \(x\) and \(y\) variables) to 1 (indicating a perfect fit between the model and the actual data).

Because the purpose of this multiple regression analysis was exploratory, the final product was an equation that contains a standard partial regression coefficient for each independent variable such that:

\[
y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6
\]

In this equation, local hire teachers’ perceived compensation fairness \((y)\) is predicted by the sum of an intercept value \((a)\) and the product of each independent variable \((x_1 - x_6)\) and its unstandardized partial regression coefficient \((b_1 - b_6)\). The intercept \((a)\) is simply defined as the
predicted value of $y$ if none of the independent variables were added to the model.

Unstandardized partial regression coefficients ($b_1 - b_6$) define the number of standard deviations $y$ would shift if the corresponding independent variable were shifted by a single unit.

Because different scales were used to measure the independent variables, standardized coefficients ($\beta_1 - \beta_6$) were then calculated. Standardized coefficients allow for direct comparison of the influence each independent variable has towards the overall model. Larger values of $\beta$ denote independent variables which have a greater contribution to the model.

**Analysis of Hypothesis 2.** There will be a positive correlation between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers. The validity of Hypothesis 2 was evaluated using Pearson’s product-moment correlation coefficient (Pearson $r$) analysis. In this analysis, the ordered pairs ($x$, $y$) were defined as:

\[
x = \text{local-hire teachers’ perceived compensation fairness} \ (\text{comp} \_\text{fairness})
\]
\[
y = \text{local-hire teachers’ willingness to assist and collaborate with foreign-hire teachers} \ (\text{willingness} \_\text{to} \_\text{assist})
\]

After creating a scatter plot of all data points, a sample correlation coefficient ($r$) was calculated. A value of $-1 \leq r < 0$ indicates a negative correlation between the two variables. Values closer to $-1$ indicate a stronger correlation.

Next, a single-tailed $t$-test was employed to determine if the correlation coefficient ($r$) was significantly different than zero. In this test:

- The null hypothesis ($H_0$) stated that there is no significant positive correlation between $\text{comp} \_\text{fairness}$ and $\text{willingness} \_\text{to} \_\text{assist}$. 
The alternate hypothesis ($H_a$) stated that there is a significant positive correlation between $\text{comp\_fairness}$ and $\text{willingness\_to\_assist}$.

The level of confidence was set at 0.95, and a significance level of $\alpha = 0.025$ was used. If confidence is set at 0.95, alpha is typically set at 0.5. However, for a single-tailed test, it must be divided by two. After the value of the test statistic ($t$) was calculated, the population correlation ($\rho$) was determined, and a $t$-Distribution Table was consulted to decide whether the value of $\rho$ rejected or failed to reject the null hypothesis. A value of $\rho$ which falls below the determined alpha value indicates that the null hypothesis is accepted. If $\rho$ is greater than the alpha value, the null hypothesis is rejected.

**Research Ethics**

In order to adhere to appropriate ethical guidelines, I ensured this study was in accordance with the following considerations (Lærd Dissertation, 2012):

- Doing good and doing no harm
- Obtaining informed consent
- Protecting anonymity and confidentiality
- Avoiding deceptive practices
- Providing the right to withdraw

**Doing good and doing no harm.** Throughout the course of this research, no participants experienced any immediate harm. However, participants may have felt quite sensitive about the topics of wage discrimination and split labor markets. Hence, the design of this study vigilantly ensured no participants would experience future psychological stress, invasion of privacy, or financial or social harm. Part of this vigilance involved careful attention to the following four categories of ethical considerations.
**Obtaining informed consent.** Before beginning the survey, participants received an e-mail inviting them to participate. The exact text of this letter may be seen in Appendix C. This e-mail contained a link to the online survey and written information about this study as summarized below:

- the survey was part of a doctoral research study
- participation was voluntary and participants could withdraw at any time
- participation consisted of completing a 10- to 15-minute survey
- all answers were anonymous; no data which was collected allowed the researcher or others to connect individuals to their responses
- responses were stored in a password-protected, electronic format. They will be destroyed after a time period of three years.

Additionally, Questions 1, 2 and 4 of the survey confirmed participants were aware of the voluntary, anonymous nature of this survey.

1. Are you willing to participate in this survey?
   - Yes. I choose to participate in this survey.
   - No. I choose not to participate in this survey.

2. I have read the information above and understand that this is an anonymous, voluntary survey for local-hire teachers.
   - Yes
   - No
4. I am a willing volunteer in this survey. I understand my answers are anonymous and will be kept private and confidential. I understand that I may stop this survey at any time.

☐ Yes

☐ No

If a participant answered “no” to any of these questions, they were directed to a web page which thanked them for their time and immediately ended data collection.

**Protecting anonymity and confidentiality.** Protecting the anonymity of participants was the greatest ethical concern of this study. As such, the survey refrained from asking any questions that could identify a specific participant (such as length of tenure with ISD, sex, and job title). All data will be kept in a password-protected, electronic file for three years. After this time, it will be properly deleted.

For the optional free-response section at the end of this survey, if a participant wrote anything in this section, any potentially-identifying information was removed during data analysis. This included references to names, geographical locations, and school-specific terms.

**Avoiding deceptive practices.** No deceptive practices took place during this study. For example, the survey was not designed by or for the participants’ employer with the intention of collecting privileged information.

**Providing the right to withdraw.** Participants had the right to withdraw at any point during the survey. Participants were not pressured or coerced away from withdrawing their results.

**Role of the Researcher**

Twelve years ago, I boarded an airplane to China. I began working as a foreign-hire teacher and became aware of the split labor markets at international schools. Today, many of my
friends and colleagues are local-hire teachers. Many of them feel helpless to speak publicly about split labor markets, and I feel morally obligated to help shed light on this issue. To that end, this study is both a personal and professional endeavor which stems from my belief that all humans deserve equal dignity and respect. I choose not to sit by quietly and watch my colleagues be subjected to what I perceive as a social injustice in our workplace. Rather, I choose to provide a venue in which they could share about their experiences.

Four years ago, I entered a doctoral program and discovered a way to investigate the experiences of local-hire teachers. Because I was working closely with this population, formulating hypotheses to predict their experiences did not feel difficult. In the end, though, I was not a local-hire teacher. My hypotheses were only predictions, and I understood that the data might not support them.

It is important to discuss how this inside perspective may have affected my ability to perform objective, scholarly research. In addition to working closely with local-hire teachers, I also worked for ISD—the organization whose local-hire teachers I surveyed. Although I felt no pressures from ISD related to my study, it is important to note the potential conflict of interest that this situation may have posed.

This research stemmed from my desire to address a perceived social injustice. However, as the research will culminate in my doctoral degree, I certainly had a stake in the outcome. Hence, it was my ethical obligation to elicit no bias of response when distributing and promoting participation in the survey. I also attempted to remain objective in my analysis and interpretation of data. Finally, it is important to note that the results of my research could lead to policy change and improved treatment of local-hire teachers. Alternately, the results could lead to no change at all. I was motivated to learn what I could about this phenomenon.
Chapter 4: Results

This chapter summarizes a variety of statistical tests that were performed on data gathered through this study. These data were collected from 86 local-hire teachers who worked in a split labor market setting across seven different international schools in Asia. Data are related to their experiences and perceptions of working in a split labor market environment.

After a discussion of the basic descriptive statistics, Hypothesis 1 of this study is described through multiple regression analysis. Subsequently, Hypothesis 2 is examined through simple Pearson’s correlation analysis. Finally, a summary of additional analyses is presented. An in-depth discussion of the results and their implications is found in Chapter 5.

Because the names of variables discussed in this section are quite lengthy, abbreviated labels are often substituted. A list of abbreviations can be seen in Table 5.

Table 5: List of Abbreviated Terms

<table>
<thead>
<tr>
<th>Variable</th>
<th>Abbreviation</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local-hire teachers</td>
<td>LHT</td>
<td>1a – f and 2</td>
</tr>
<tr>
<td>Foreign-hire teachers</td>
<td>FHT</td>
<td>1a, 1d, and 2</td>
</tr>
<tr>
<td>Local-hire teachers’ perceived compensation fairness</td>
<td>comp_fairness</td>
<td>1a – f</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of foreign-hire teachers at the same school</td>
<td>comp_diff_FHT</td>
<td>1a</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local teachers at different international schools</td>
<td>comp_diff_LHT_other IS</td>
<td>1b</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country</td>
<td>comp_diff_LT_domestic</td>
<td>1c</td>
</tr>
</tbody>
</table>
Descriptive Analysis

In total, 86 local-hire teachers participated in this study. The survey was shared with approximately 140 individuals, which resulted in a response rate of 61.4%. The majority of participants (75%) identified as local-hire teachers with a local contract. This means they were working in the country or region of their nationality. The remaining 25% identified as “local-hire expats.” As described in Chapter 2, this sub-category of local-hire teachers includes individuals who are employed on local-hire contracts but are not citizens of the country in which they are working. Participants were fairly evenly distributed throughout the three categories of age (0 – 32, 33 – 39, 40+ years). This was expected because—based on human resource data provided by ISD—the age categories were designed to result in a somewhat even distribution. This even distribution allowed for the collection of general demographic data while further protecting the anonymity of participants. For example, a normal distribution of age may have indicated only one or two participants were over 60 years of age. Therefore, asking participants to state their exact age or indicate they belonged to the “over 60 years” age category may have inadvertently revealed their identity.
Within the sample, 90% of participants have completed an undergraduate degree while an additional 40% have also earned a master’s degree. Most participants also held a teaching license (87%). Tuition waivers were received by 14% of participants so that one or more of their dependents may attend the school where they work. Alternately, 58% of participants indicated they received no tuition waiver for their children. It was noted by 28% of participants that this question did not apply to them. A summary of demographic statistics can be seen in Table 6.

Table 6: Descriptive Demographics

<table>
<thead>
<tr>
<th>Contract Type</th>
<th>N (total = 86)</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local-hire</td>
<td>65</td>
<td>75.58%</td>
</tr>
<tr>
<td>Local-hire expat</td>
<td>8</td>
<td>9.30%</td>
</tr>
<tr>
<td>ISD Local-hire expat</td>
<td>13</td>
<td>15.12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 32 years</td>
<td>32</td>
<td>37.21%</td>
</tr>
<tr>
<td>33 – 39 years</td>
<td>31</td>
<td>36.05%</td>
</tr>
<tr>
<td>40 years or older</td>
<td>23</td>
<td>26.74%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Highest Level of Education</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Secondary/high school</td>
<td>4</td>
<td>4.65%</td>
</tr>
<tr>
<td>Local/community college</td>
<td>5</td>
<td>5.81%</td>
</tr>
<tr>
<td>Bachelor’s degree</td>
<td>43</td>
<td>50.00%</td>
</tr>
<tr>
<td>Master’s degree</td>
<td>34</td>
<td>39.53%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Teaching License</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>75</td>
<td>87.21%</td>
</tr>
<tr>
<td>no</td>
<td>11</td>
<td>12.79%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuition Waiver for Dependents</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>12</td>
<td>13.95%</td>
</tr>
<tr>
<td>no</td>
<td>50</td>
<td>58.14%</td>
</tr>
<tr>
<td>not applicable</td>
<td>24</td>
<td>27.91%</td>
</tr>
</tbody>
</table>

Descriptive statistics for this study may be seen in Table 7. Organized by variable, this table includes values for number of participants (n), mean, standard deviation (SD), range, minimum value (min), maximum value (max), and variance. In all cases, the theoretical range and minimum/maximum values are provided beside the experimental range and
minimum/maximum values. This was done in order to better illustrate the data in the context of the theoretical framework.

For example, the experimental mean for local-hire teachers’ perceived compensation fairness is -0.0698. This construct was measured by six items that were each scored on a 5-point Likert scale with possible responses ranging from 2 (“very fair”) to -2 (“very unfair”). Because this construct was scored as an additive index, there was a possible 24-point range. If an individual responded “very fair” to all six items, they would have received the maximum score of 12. Conversely, individuals who responded “very unfair” to all six questions would have received the lowest possible score of -12. Within this context, it is quite notable that the mean score for perceived compensation fairness (-0.0698) was so close to zero. The implications of this score are discussed in Chapter 5.

Table 7: Descriptive Statistics for Continuous Variables

<table>
<thead>
<tr>
<th>Construct</th>
<th>n</th>
<th>Mean</th>
<th>SD</th>
<th>Possible Range</th>
<th>Actual Range</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived compensation fairness (Comp_fairness)</td>
<td>86</td>
<td>-0.0698</td>
<td>3.803</td>
<td>[24]</td>
<td>[19]</td>
<td>14.466</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of foreign-hire teachers at the same school (Comp_diff_FHT)</td>
<td>80</td>
<td>1.6125</td>
<td>.49025</td>
<td>[4]</td>
<td>[1]</td>
<td>.240</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local-hire teachers at different international schools (Comp_diff_LHT_other IS)</td>
<td>47</td>
<td>.7872</td>
<td>.65727</td>
<td>[4]</td>
<td>[3]</td>
<td>.432</td>
</tr>
<tr>
<td>Perceived difference between personal compensation and compensation of local teachers at</td>
<td>69</td>
<td>-1.1014</td>
<td>.78861</td>
<td>[4]</td>
<td>[3]</td>
<td>.622</td>
</tr>
</tbody>
</table>
public, domestic schools in the host country
(Comp_diff_LT_domestic)

| Perception of contributions made by foreign-hire teachers (FHT_contributions) |
|------------------|---------|--------------|---------------|
| 86               | -.5814  | 3.82089      | 16            |
|                  |         |              | [15, 14.599]  |

| Perception of systems of communication and promotion (Communication) |
|-----------------|---------|---------------|
| 86              | -.7326  | 4.46008       |
|                  |         | [28, 19]      |
|                  |         |               |

| Local-hire teachers’ willingness to assist and collaborate with foreign-hire teachers (Willingness_to_assist) |
|--------------------------------------------------|---------|---------------|
| 86                                               | 7.0233  | 3.56445       |
|                                                  |         | [24, 18]      |

Although 86 local-hire teachers participated in the study, n < 86 for three variables:

comp_diff_LHT_other IS (n = 47), comp_diff_LT_domestic (n = 69), and comp_diff_FHT (n = 80). In each case, participants indicated they were “entirely unaware” of the referent teacher’s salary. During data analysis, these responses were coded as special missing values and excluded pair-wise from the calculations.

**Analysis of Hypotheses 1a – f**

*There will be a correlation between local-hire teachers’ perceptions of compensation fairness and the following variables:*

a. *their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school*

b. *their perceived difference between personal compensation and compensation of local-hire teachers at different international schools*

c. *their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country*

d. *their perception of contributions made by foreign-hire teachers*

e. *whether or not a tuition-waiver is received so their dependents may attend the international school in which they work*
f. perception of systems of communication and promotion

In order to test Hypotheses 1a – f, exploratory multiple regression analysis was employed. No a priori assumptions were made regarding the level at which each independent variable would influence the predicted dependent variable. Therefore, all data were entered into the model at the same time rather than in a hierarchical or stepwise manner.

Assumptions of multiple regression analysis. Before proceeding with interpretation of a multiple regression model, several statistical assumptions must be met. These assumptions ensure that the data set is appropriate for multiple regression analysis. Overall, the data set used in this study appeared to meet nearly all assumptions which are described in the following sections.

Independence of observations. The test for 1st order autocorrelation ensures there is no significant correlation between the individual observations and their errors (residuals). It is important that all observations be independent of one another, and this can be determined by examining the Durbin-Watson value. Durbin-Watson values range from 0 to 4. Values closest to 2 indicate an acceptably low level of 1st order autocorrelation. The Durbin-Watson value for this study’s multiple regression analysis is 1.582. This indicates a satisfactory level of independence among the study’s residuals. Therefore, it may be assumed there is independence of observation.

A linear relationship exists. Linearity between the dependent variable and the combined independent variables was determined by visual inspection of the scatterplot Figure D1: Studentized Residual Values vs Unstandardized Predicted Values. This chart may be found in Appendix D. Overall, the scatterplot displayed a general horizontal trend. Inspection of this
scatterplot supports the assumption that there is a linear relationship between the dependent variable and the combined independent variables.

Next, partial regression scatterplots were observed to determine if the data suggested separate linear relationships between the dependent variable and each of the six independent variables. These partial regression plots were only used to test the assumption of linearity (which was required in order to proceed with the actual regression analysis). In order to support this assumption, the scatterplots only needed to demonstrate an apparent, qualitative linear trend among the data points. Actual quantitative correlation of variables and their contributions to the regression model will be discussed later in this chapter.

**Hypothesis 1a.** The possible linear relationship between the dependent variable and the compensation differential of FHTs was very weak and possibly non-existent. *Figure D2:* Partial Regression Plot of `Comp_Fairness vs Comp_Diff_FHT` may be seen in Appendix D.

**Hypothesis 1b.** There appeared to be a reasonable negative linear relationship between the dependent variable and the compensation differential of LHT’s at other international schools. *Figure D3:* Partial Regression Plot of `Comp_Fairness vs Comp_Diff_LHT_Other IS` may be seen in Appendix D.

**Hypothesis 1c.** A reasonable negative linear relationship was apparent between the dependent variable and the compensation differential of local teacher at domestic schools in the host country. *Figure D4:* Partial Regression Plot of `Comp_Fairness vs Comp_Diff_LT_Domestic` may be seen in Appendix D.

**Hypothesis 1d.** A general positive linear relationship between the dependent variable and the perception of contributions made by FHT’s was observed. *Figure D5:* Partial Regression Plot of `Comp_Fairness vs FHT_Contributions` may be seen in Appendix D.
**Hypothesis 1e.** There did not appear to be a linear relationship between the dependent variable and the independent variable of tuition waivers. Rather, the scatterplot seemed to indicate a negative quadratic relationship. Considerations related to this independent variable are discussed in Chapter 5. *Figure D6: Partial Regression Plot of Comp_Fairness vs Tuition_Waiver* may be seen in Appendix D.

**Hypothesis 1f.** A possible linear relationship between the dependent variable and perceptions of systems of communication and promotion was very weak and possibly non-existent. This will be further discussed in Chapter 5. *Figure D7: Partial Regression Plot of Comp_Fairness vs Communication* may be seen in Appendix D.

**Homoscedasticity of residuals.** The assumption of homoscedasticity or equal error variances was also tested through the direct observation of a scatterplot. This chart, *Figure D1: Studentized Residual Values vs the Unstandardized Predicted Values*, may be found in Appendix D. It was also used to test the assumption of linearity. The ordered pairs on this scatterplot appear to be randomly distributed with no obvious funnel- or fan-shaped tendencies. As such, it can be assumed that the residuals are satisfactorily equal at all predicted values of the dependent variable or that homoscedasticity exists.

**No multicollinearity.** To test for the presence of multicollinearity, the VIF and Tolerance values were calculated. In all cases, the Tolerance value was greater than 0.1 and VIF was less than 10. Hence, it was assumed that there is no multicollinearity in this model. That is, there was no significant correlation between the individual independent variables.

This assumption was further tested by examining the correlation coefficients of each possible pair of independent variables. In all cases $r < 0.7$, so no evidence of multicollinearity was observed. The variable *tuition_waiver* does have a correlation of 0.318, 0.446, and -0.349
with $\text{comp\_diff\_FHT}$, $\text{comp\_diff\_LT\_domestic}$, and $\text{communication}$, respectively. There is also a correlation of 0.330 between $\text{communication}$ and $\text{FHT\_contributions}$.

These correlations are not surprising. Tuition waivers are one component of an overall compensation package. Therefore, local-hire teachers whose dependents receive tuition waivers may perceive a smaller difference between their own compensation and the compensation of their foreign-hire colleagues. Additionally, local-hire teachers whose dependents receive tuition waivers may note that overall, they receive a larger compensation than their local-hire colleagues. In light of this information, it was assumed that these variables are not correlated because they are measuring the same phenomenon. Therefore, for the purpose of this study, no significant collinearity was assumed. Table 8 contains the specific correlation values ($r$), population correlations ($\rho$), and sample sizes ($n$) for each individual comparison of variables.

**Table 8: Correlation Values for Independent Variables**

<table>
<thead>
<tr>
<th>Hypothesis 1a: Comp_diff_FHT</th>
<th>Comp_diff_LHT</th>
<th>Comp_diff_LT_domestic</th>
<th>FHT_Contributions</th>
<th>Tuition_Waiver</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>$r = 1.000$</td>
<td>$r = 1.000$</td>
<td>$r = 1.000$</td>
<td>$r = 1.000$</td>
<td>$r = 1.000$</td>
<td>$r = 1.000$</td>
</tr>
<tr>
<td>Hypothesis 1b: Comp_diff_LHT_other IS</td>
<td>$r = .292$</td>
<td>$r = .292$</td>
<td>$r = .292$</td>
<td>$r = .292$</td>
<td>$r = .292$</td>
</tr>
<tr>
<td>$n = 45$</td>
<td>$n = 45$</td>
<td>$n = 45$</td>
<td>$n = 45$</td>
<td>$n = 45$</td>
<td>$n = 45$</td>
</tr>
<tr>
<td>Hypothesis 1c: Comp_diff_LT_domestic</td>
<td>$r = -.232$</td>
<td>$r = -.232$</td>
<td>$r = -.232$</td>
<td>$r = -.232$</td>
<td>$r = -.232$</td>
</tr>
<tr>
<td>$n = 63$</td>
<td>$n = 63$</td>
<td>$n = 63$</td>
<td>$n = 63$</td>
<td>$n = 63$</td>
<td>$n = 63$</td>
</tr>
<tr>
<td>Hypothesis 1d: Contributions_FHT</td>
<td>$r = .131$</td>
<td>$r = .131$</td>
<td>$r = .131$</td>
<td>$r = .131$</td>
<td>$r = .131$</td>
</tr>
<tr>
<td>$n = 80$</td>
<td>$n = 80$</td>
<td>$n = 80$</td>
<td>$n = 80$</td>
<td>$n = 80$</td>
<td>$n = 80$</td>
</tr>
<tr>
<td>Hypothesis 1e: $r = -.318$</td>
<td>$r = -.318$</td>
<td>$r = -.318$</td>
<td>$r = -.318$</td>
<td>$r = -.318$</td>
<td>$r = -.318$</td>
</tr>
</tbody>
</table>
Tuition_waiver  
\[ p = .009 \quad n = 56 \]  
\[ p = .467 \quad n = 37 \]  
\[ p = .001 \quad n = 51 \]  
\[ p = .080 \quad n = 62 \]  
1.000

Hypothesis 1f  
\[ r = -.144 \quad p = .102 \quad n = 80 \]  
\[ r = -.148 \quad p = .146 \quad n = 47 \]  
\[ r = -.330 \quad p = .001 \quad n = 69 \]  
\[ r = -.349 \quad p = .003 \quad n = 62 \]  
1.000

Communication  
\[ p = .157 \quad n = 51 \]  
\[ p = .112 \quad n = 47 \]  
\[ p = .001 \quad n = 69 \]  
\[ p = .003 \quad n = 62 \]  
1.000

Hypotheses 1a-f  
\[ r = -.132 \quad r = -.363 \quad r = -.250 \quad r = .358 \quad r = -.125 \quad r = .150 \]  
[Comp_fairness\textsuperscript{a}  
\[ p = .122 \quad p = .012 \quad p = .019 \quad p < .001 \quad p = .167 \quad p = .084 \]  
\[ n = 80 \quad n = 47 \quad n = 69 \quad n = 86 \quad n = 62 \quad n = 86 \]

\[ r = \text{Pearson’s correlation constant} \]  
\[ p = 1\text{-tailed significance value} \]  
\[ n = \text{sample size} \]  
a. Compensation Fairness is the designated dependent variable in the model

**No unusual points.** The assumption of no unusual points (such as outliers) was upheld by multiple tests. Casewise diagnostics did not reveal any data points with a Standard Residual of greater than 3 or less than -3. The largest standard residual was 1.982 while the smallest was -1.486. Likewise, the Studentized Deleted Results showed a range of -1.818 to 2.118 with no residual value being greater than ±3. Therefore, no statistical evidence of an outlier was observed.

Examination of the Leverage Values (LEV) of each participant revealed ten cases to have values between 0.215 and 0.359. Leverage values above 0.5 are considered to represent cases which pose a significant risk of unduly influencing the overall data set. It is advisable to remove these cases from the study. Values less than 0.2 are not seen as a threat. However, if 0.2 \( \leq \) LEV < 0.5, the data is considered “risky” (Laerd Statistics, 2017).

Despite ten cases falling into this intermediate (“risky”) category, it was determined that these cases should remain part of the overall analysis. The sample size was already quite small, and the LEV values were not greater than 0.5.
Finally, the Cook’s Distance values for each case were examined. The largest Cook’s value observed was 0.19455, and no cases were observed to have a value of greater than 1.0. Therefore, by this test, it was also determined that no cases were exerting unusual influence.

**Residuals are normally distributed.** To test the assumption that residuals are normally distributed, both a histogram (Figure D8 in Appendix D) and a P-P Plot (Figure D9 in Appendix D) of the Regression Standardized Residual for the dependent variable were examined. Both models present the residual data as following an overall, expected trend. The histogram data basically follows a normal curve while the P-P Plot data generally follows the line of regression. Despite this, neither model appears to have a completely uniform distribution of residual data. However, rather than transform the data, it was decided to proceed with analysis.

In summary, it was determined that each of the necessary assumptions of multiple regression analysis was upheld at a sufficient level to utilize multiple regression during data analysis.

**Testing the fit of the multiple regression model.** The first step in analysis of the model was to examine how well the model fits the data. This was done by examining the coefficient of determination ($R^2$) and the statistical significance (using ANOVA).

**Total variation.** The coefficient of determination ($R^2$) for Hypothesis 1 was 38.5% with the adjusted $R^2$ value of .262 indicating that in the dependent variable, 26.2% of variability from the mean model may be accounted for by the regression model. Table 9 provides further information about the variability of the model.
Table 9: *Hypothesis 1: Regression Model Summary* \(^a\)

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R(^2)</th>
<th>Adjusted R(^2)</th>
<th>St. Error of the Estimate</th>
<th>R(^2) Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.620(^b)</td>
<td>.385</td>
<td>.262</td>
<td>3.26735</td>
<td>.385</td>
<td>3.130</td>
<td>6</td>
<td>30</td>
<td>.017</td>
<td>1.582</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: Comp_Fairness

\(^b\) Predictors: (constant), comp_diff_FHT, comp_diff_LHT_other IS, comp_diff_LT_domestic, FHT_contributions, tuition_waiver, communication

**Statistical significance.** When an ANOVA test was used to compare the null and test hypotheses, it was found that the regression model was statistically significantly better at predicting the dependent variable than the mean model (predicted by the null hypothesis).

Overall, \(F(6, 30) = 3.130, p = 0.017\). As such, \(p < 0.05\) means there is a less than 5% probability of obtaining the observed results with the mean model alone. In fact, the likelihood of obtaining these results is only 1.7%, which demonstrates an acceptable level of statistical significance within this model. Table 10 provides further statistical details regarding the ANOVA analysis.

Table 10: *Hypothesis 1: ANOVA Analysis* \(^a\)

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>dF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>200.497</td>
<td>33.416</td>
<td>3.130</td>
<td>.017(^b)</td>
</tr>
<tr>
<td>Residual</td>
<td>320.267</td>
<td>10.676</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>520.764</td>
<td>30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: Comp_Fairness

\(^b\) Predictors: (constant), comp_diff_FHT, comp_diff_LHT_other IS, comp_diff_LT_domestic, FHT_contributions, tuition_waiver, communication
Interpretation of coefficients. The next step in analysis was to examine the slope coefficients of each independent variable, thereby determining the extent to which each variable contributes to the overall model. In the multiple regression model, the intercept (constant) was calculated at 2.096. Table 11 lists the unstandardized coefficient (B) for each independent variable when it is added to the multiple regression model.

Table 11: Hypothesis 1: Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized coefficients</th>
<th>95.0% confidence interval for B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Standard Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>2.096</td>
<td>3.530</td>
</tr>
<tr>
<td>Comp_diff_FHT</td>
<td>-0.798</td>
<td>1.367</td>
</tr>
<tr>
<td>Comp_diff_LHT_other IS</td>
<td>-2.431</td>
<td>.970</td>
</tr>
<tr>
<td>Comp_diff_LT_domestic</td>
<td>-0.913</td>
<td>.819</td>
</tr>
<tr>
<td>FHT_contributions</td>
<td>.476</td>
<td>.157</td>
</tr>
<tr>
<td>Tuition_waiver</td>
<td>.269</td>
<td>1.720</td>
</tr>
<tr>
<td>Communication</td>
<td>.022</td>
<td>.149</td>
</tr>
</tbody>
</table>

a. Dependent variable: comp_fairness

Using these unstandardized coefficients, the regression model may be mathematically represented as:

Predicted level of \( \text{comp}_\text{fairness} = 2.096 - (.798 \times \text{comp}_\text{diff}_\text{FHT}) - (2.431 \times \text{comp}_\text{diff}_\text{LHT}_\text{other IS}) - (.913 \times \text{comp}_\text{diff}_\text{LT}_\text{domestic}) + (.476 \times \text{FHT}_\text{contributions}) + (.269 \times \text{tuition}_\text{waiver}) + (.022 \times \text{communication}) \)
Very few of the coefficients in this model display a calculated probability of greater than 95% ($p < .05$). However, $\text{comp\_diff\_LHT\_other IS}$ has a probability of .018 indicating that $p < .05$. Therefore, it may be concluded that this variable is statistically significant to the model. Likewise, the probability of $\text{FHT\_contributions}$ is .005 which is also less than 0.05. So, it is implied that this independent variable is also significant to the model.

Analysis of the standardized coefficients ($\beta$), confirm that $\text{comp\_diff\_LHT\_other IS}$ ($\beta = -.420$) and $\text{FHT\_contributions}$ ($\beta = -.479$) contribute to the model at higher levels than any of the other independent variables in Hypotheses a - f. The next highest levels of standardized contribution come from $\text{comp\_diff\_LT\_domestic}$ ($\beta = -.189$) and $\text{comp\_diff\_FHT}$ ($\beta = -.103$). The standardized coefficients of $\text{tuition\_waiver}$ and $\text{communication}$ were quite low at ($\beta = .028$ and 0.25, respectively).

Analysis of Hypothesis 2

*There will be a positive correlation between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers.* Hypothesis 2 was analyzed using a simple Pearson correlation analysis of the variables $\text{comp\_fairness}$ and $\text{willingness\_to\_assist}$. This involved calculating the Pearson correlation coefficient ($r$), and evaluating its statistical significance. Data representing both variables are continuous and paired. This means all cases have a single, paired data point value for each of the two variables being analyzed.

Assumptions of Pearson’s correlation analysis. Before analyzing data from a Pearson’s correlation test, three major assumptions must be satisfied. These assumptions ensure that the outcome of the Pearson’s correlation analysis is an appropriate and accurate representation of the data set.
**Linear relationship.** To test the linear relationship between *comp_fairness* and *willingness_to_assist*, a scatterplot was created and visually inspected. This chart (Figure E1) may be found in Appendix E: *Hypothesis 2: Pearson’s Correlation Figures*. The scatterplot displays ordered pairs of data points plotting *perception of compensation fairness* on the x-axis and *willingness to assist and collaborate with foreign-hire teachers* on the y-axis. There appears to be a slight, negative linear relationship between the two variables.

**Outliers.** Outliers can significantly affect the value of $r$ in a Pearson’s correlation test. Therefore, it is important to identify and possibly remove any outliers before interpreting the data from a correlation test. If the negative linear relationship observed in Figure E1 is assumed to be true, then there appear to be multiple outliers in the upper right quadrant of the scatterplot. Even if a positive linear relationship is assumed (instead of a negative relationship), there are still multiple outlying data points. The presence of these outliers may have a significant effect on the slope and/or the intercept of the linear regression model.

Despite this inability to fulfill the required assumption of no outliers, it was decided to continue with a correlation test without removing these unusual data points. This decision was made because there is no reason to assume human error or instrument failure occurred during data collection. Therefore, it must be assumed that these data do, in fact, represent the intended responses of an individual participant.

**Bivariate normality.** Next, the Shapiro-Wilk’s test was used to test for bivariate normality in each variable. This test is appropriate because the sample size is small (Laerd Satisitics, 2017). Calculated probability values ($p$) of greater than 0.05 indicate appropriate, statistically significant bivariate normality. In this case, $p$-values for both variables were less than 0.05 indicating non-normal distribution. For *perception of compensation fairness*, $p =$
0.032, while \( p < 0.000 \) for willingness to assist and collaborate with foreign-hire teachers. Once again, although the data do not meet the required assumptions, it was decided to proceed.

**Coefficient of determination and statistical significance.** A slight negative correlation \( (r = -0.152) \) was demonstrated between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers. However, this coefficient was below the recommended value of ± 0.3 which would indicate a moderate correlation between the variables. Furthermore, the 1-tailed significance test indicated that the value of \( p = 0.0815 \) does not satisfy the test of statistical significance as it is greater than 0.05. Table 12 provides a summary of these calculated values.

**Table 12: Hypothesis 2: Correlation Statistics**

<table>
<thead>
<tr>
<th></th>
<th>Willingness_to_assist</th>
<th>Comp_fairness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Willingness_to_assist</strong></td>
<td>Pearson Correlation ( (r) )</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td><strong>Comp_fairness</strong></td>
<td>Pearson Correlation ( (r) )</td>
<td>-.152</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td></td>
</tr>
</tbody>
</table>

Therefore, it can be determined that the data collected by this study does not reject the null hypothesis of there being no statistically significant relationship between *LHT’s perception of compensation fairness* and *LHT’s willingness to assist and collaborate with foreign-hire teachers*. In other words, these variables are not correlated at a significantly significant level.
Additional Analyses 1: Modified Multiple Regression Model

During analysis of Hypothesis 1a-f, it was observed that two of the independent variables displayed statistical significance in predicting the outcome of the dependent variable. These two variables are: perceived difference between personal compensation and compensation of local teachers at different international schools (*comp_diff_LHT_other IS*) and perception of contributions made by foreign-hire teachers (*FHT_contributions*). The other four independent variables did not appear to significantly contribute towards the multiple regression model. Additionally, as previously noted, it was questionable whether or not the qualitative inspection of data actually supported the required assumption of normal error distribution.

Hence, to further explore this finding, a second multiple regression analysis was performed in which *comp_diff_LHT_other IS* and *FHT_contributions* were entered as the only independent variables while local-hire teachers’ perceived compensation fairness (*comp_fairness*) was preserved as the dependent variable. Although *FHT_contributions* appeared to have a greater influence on the model, no a priori assumptions were made during this second multiple regression analysis. Therefore, both variables were entered into the model at the same time.

**Assumptions of multiple regression analysis.** As before, the data was analyzed to ensure that it supported the required assumptions of multiple regression analysis.

*Independence of observations.* A Durbin-Watson value of 2.136 confirmed there was a satisfactory level of independence among the study’s residuals.

*A linear relationship exists.* Linearity between the dependent variable and the combined independent variables was determined by visual inspection of the scatterplot Figure F1. This chart is displayed in Appendix F. Inspection of this scatterplot supports the assumption that
there is a linear relationship between the dependent variable and the combined independent variables, because a general horizontal trend can be found.

Partial regression scatterplots were next examined to determine if individual linear relationships between the dependent variable and both independent variables are evident. Although plots of the data correlations between these same variables were created during the analysis of Hypothesis 1, it was necessary to generate new charts because this is a different regression model.

Comp_Diff_LHT_Other IS. There appeared to be a negative linear relationship between the dependent variable and the compensation differential of LHT’s at other international schools. Figure F2: Partial Regression Plot of Comp_Fairness vs Comp_Diff_LHT_Other IS may be seen in Appendix F.

FHT_Contributions. A general positive linear relationship between the dependent variable and the perception of contributions made by FHT’s was observed. Figure F3: Partial Regression Plot of Comp_Fairness vs FHT_Contributions may be seen in Appendix F.

Homoscedasticity of residuals. The assumption of homoscedasticity was tested by inspecting the same scatterplot which was used to evaluate the data for linearity: Figure F1: Studentized Residual Values vs the Unstandardized Predicted Values. It may be found in Appendix F. The ordered pairs on this scatterplot are distributed randomly and show no obvious funnel- or fan-shaped tendencies. As such, it can be assumed that homoscedasticity exists.

No multicollinearity. To test for the presence of multicollinearity, the VIF and Tolerance values were calculated. Both the VIF (1.073) and Tolerance (.932) satisfy the assumption that multicollinearity does not exist in this model. The correlation coefficient between
**FHT_contributions** and **comp_diff_LHT_other IS** is \( r = .261 \) (\( p = .006 \)) which also supports this assumption.

**No unusual points.** Casewise diagnostics did not reveal data points lying outside ±3 standard deviations. Studentized Deleted Results showed no cases with a residual value larger than ±3. Likewise, no cases have a Leverage Values (LEV) of 0.2 or greater. Finally, no cases have a Cook’s Distance value of greater than 1.0. Therefore, no statistical evidence of an outlier or case which is exerting undue influence was observed. This is different than the original regression model in which several potential outlier points were observed.

**Residuals are normally distributed.** To test the assumption that residuals are normally distributed, both a histogram (Figure F4: Histogram of the Regression Standardized Residual for Comp_Fairness) and a P-P Plot (Figure F5: P-P Plot of the Regression Standardized Residual for Comp_Fairness) of the Regression Standardized Residual for the dependent variable were examined. Both models showed the residual data to follow an overall expected pattern. These figures may be found in Appendix F.

**Testing the fit of the multiple regression model.** The coefficient of determination (\( R^2 \)) for the modified multiple regression model was 35.2% with an adjusted \( R^2 \) value of .323. These values may be found in Table 13.

**Table 13: Additional Analysis 1: Regression Model Summary**

<table>
<thead>
<tr>
<th>R</th>
<th>( R^2 )</th>
<th>Adjusted ( R^2 )</th>
<th>St. Error of the Estimate</th>
<th>( R^2 ) Change</th>
<th>F Change</th>
<th>df1</th>
<th>df2</th>
<th>Sig. F Change</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>.593(^b)</td>
<td>.352</td>
<td>.323</td>
<td>3.13024</td>
<td>.352</td>
<td>11.956</td>
<td>2</td>
<td>44</td>
<td>&lt;.001</td>
<td>2.136</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Comp_fairness

b. Predictors: (constant), comp_diff_LHT_other IS, FHT_contributions
**Statistical significance.** The ANOVA test rejected a null hypothesis that assumed there was no statistically significant correlation between the dependent variable (*comp_fairness*) and the independent variables (*comp_diff_LHT_other IS* and *FHT_contributions*). Overall, \( F (2, 44) = 11.956, p < 0.001 \). Table 14 provides further statistical details regarding the ANOVA analysis.

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>dF</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>234.291</td>
<td>2</td>
<td>117.146</td>
<td>11.956</td>
</tr>
<tr>
<td>Residual</td>
<td>431.129</td>
<td>44</td>
<td>9.798</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>665.421</td>
<td>46</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: *Comp_fairness*

b. Predictors: (constant), *comp_diff_LHT_other IS*, *FHT_contributions*

**Interpretation of coefficients.** Analysis of the unstandardized coefficients reveal that for every unit change of *comp_diff_LHT_other IS* the dependent variable is predicted to move \( B = -2.836 \) units. For *FHT_contributions*, \( B = 0.484 \). When these coefficients are standardized, the adjusted values are *comp_diff_LHT_other IS*, \( \beta = -0.490 \) and *FHT_contributions*, \( \beta = 0.486 \).

The Likert Scale employed to measure *comp_diff_LHT_other IS* has a range of ±2 (4 units). Although *FHT_contributions* were also measured on a Likert Scale of ±2, this construct was operationalized by four different questions. These responses were then coded into an additive index which resulted in a total range of ±8. Thus, because the independent variables were scored on two different scales, it is expected that the change from unstandardized \( (B) \) to standardized \( (\beta) \) coefficients would be noticeable. Table 15 lists the unstandardized and standardized coefficients for each independent variable. An acceptable level of \( p < 0.05 \) was predetermined.
### Additional Analysis 1: Coefficients *

<table>
<thead>
<tr>
<th>Unstandardized coefficients</th>
<th>Standard Error</th>
<th>Standardized coefficients</th>
<th>Significance</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Standard Error</td>
<td>Standardized coefficients</td>
<td>Beta</td>
<td>Significance</td>
<td>Lower Bound</td>
</tr>
<tr>
<td>(Constant)</td>
<td>2.444</td>
<td>.751</td>
<td>-</td>
<td>.002</td>
<td>.931</td>
</tr>
<tr>
<td>Comp_diff_LHT_other IS</td>
<td>-2.836</td>
<td>.727</td>
<td>-.490</td>
<td>&lt;.001</td>
<td>-4.302</td>
</tr>
<tr>
<td>FHT_contributions</td>
<td>.484</td>
<td>.125</td>
<td>.486</td>
<td>&lt;.001</td>
<td>.232</td>
</tr>
</tbody>
</table>

a. Dependent variable: comp_fairness

The modified multiple regression model may be mathematically represented by using the unstandardized coefficients ($B$) so that:

\[
\text{Predicted level of } \text{comp_fairness} = 2.444 - (2.431 \times \text{comp_diff_LHT_other IS}) + (.484 \times \text{FHT_contributions})
\]

### Additional Analysis 2: Choice of Social Referent

A second set of additional analyses were performed on the data to check participant’s choice of social referent. It was noted during initial regression analysis that 39 participants indicated they were “entirely unaware of local-hire teachers’ compensations at other international schools.” These responses were coded as special missing values and excluded from analysis of this variable. As a result, $n = 47$ for analysis of **comp_diff_LHT_other IS**. Hence, although the Hypothesis 1 regression model implies that local-hire teachers at other international schools are the most significant social referent, this conclusion excludes the input of nearly half of all participants. Therefore, the original regression model was run once more in its entirety with an exclusion of the independent variable **comp_diff_LHT_other IS**.
When this new multivariable regression was performed, all required assumptions were met in a manner similar to that of the original regression analysis. The new value of $R$ decreased to .506, while $R^2$ and the adjusted $R^2$ decreased to .256 and .174, respectively. $F = .017$, which indicated the model was still statistically significant. However, the decreased values of $R$ and $R^2$ suggest the data no longer fit the regression model as tightly as before. This is to be expected, because a significant independent variable was removed.

However, the purpose of this additional analysis was to observe how the correlation coefficients would change in the absence of $\text{comp\_diff\_LHT\_other IS}$. In summary, the impact of $\text{comp\_diff\_LT\_domestic}$ increased to levels which were now statistically significant to the model. In fact, when $\text{comp\_diff\_LHT\_other IS}$ was removed from the model, $\text{comp\_diff\_LT\_domestic}$ became the independent variable with the second highest impact on the model’s predictive ability. These results are summarized in Table 16. Their implications are discussed in Chapter 5.

Table 16: Additional Analysis 2: Coefficients $^a$

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Standard Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>2.248</td>
<td>3.169</td>
</tr>
<tr>
<td>$\text{Comp_diff_FHT}$</td>
<td>-2.173</td>
<td>1.125</td>
</tr>
<tr>
<td>$\text{Comp_diff_LT_domestic}$</td>
<td>-1.524</td>
<td>.702</td>
</tr>
<tr>
<td>$\text{FHT_contributions}$</td>
<td>.417</td>
<td>.139</td>
</tr>
<tr>
<td>$\text{Tuition_waiver}$</td>
<td>-.254</td>
<td>1.533</td>
</tr>
<tr>
<td>$\text{Communication}$</td>
<td>-.072</td>
<td>.129</td>
</tr>
</tbody>
</table>

$^a$ Dependent variable: $\text{comp\_fairness}$
Summary

In summary, four of the six independent variables in Hypotheses 1a-f proved to be statistically insignificant to the multiple regression model. Additionally, three of these six independent variables showed no statistically significant correlation to the dependent variable. Finally, there was no statistically significant correlation found to support Hypothesis 2. These results may be seen in Table 17.

Table 17: Summary of Hypotheses Analysis

<table>
<thead>
<tr>
<th>Hypotheses 1</th>
<th>Implication of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. their perceived difference between personal compensation and compensation of foreign-hire teachers at the same school</td>
<td>Rejected</td>
</tr>
<tr>
<td>b. their perceived difference between personal compensation and compensation of local-hire teachers at different international schools</td>
<td>Supported</td>
</tr>
<tr>
<td>c. their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country</td>
<td>Moderately Supported</td>
</tr>
<tr>
<td>d. their perception of contributions made by foreign-hire teachers</td>
<td>Supported</td>
</tr>
<tr>
<td>e. whether or not a tuition-waiver is received so their dependents may attend the international school in which they work</td>
<td>Rejected</td>
</tr>
<tr>
<td>f. their perception of systems of communication and promotion</td>
<td>Supported</td>
</tr>
</tbody>
</table>

Hypotheses 2

There will be a positive correlation between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers. | Rejected |
To further analyze the supported portions of Hypothesis 1, a second, modified multiple regression model was created. This modified model employed only two independent variables which appeared to contribute significantly to the original regression model: \textit{FHT\_contributions} and \textit{comp\_diff\_LHT\_other IS}. Overall, the modified model supports the claim that these independent variables may be used to predict the dependent variable (\textit{comp\_fairness}) in a statistically significant manner.

A final multivariable regression analysis was run on the data to further explore the impact of social referent. \textit{Comp\_diff\_LHT\_other IS} was removed from the model (due to its low response rate) while all other factors of the original model were kept the same. Although the coefficient of multiple determination decreased, the model remained statistically significant. In this new model, local teachers at public, domestic schools appeared to replace local-hire teachers at other international schools as the most impactful social referent.

The variety of these data analysis results lay the groundwork for a rich discussion of their varied implications. There is also an indication that more could be learned from future data collection and analysis related to local-hire teachers at international schools. These topics and more will be addressed in Chapter 5.
Chapter 5: Conclusions

In this chapter, I consider the results of my dissertation research by looking back on the overall process, viewing the results of the current study, and looking ahead to where this journey may lead. I begin by answering each of my research questions and move on to analyzing them in light of the literature reviewed in Chapter 2. Next, I note the limitations inherent to this study and consider the implications of my work. I end this chapter by making recommendations for future policies and research. Finally, I reflect on my personal experiences along this journey and how they relate to my own experiences as an international school teacher.

Summary

Data analysis of this study indicated that three of the tested variables may be used to partially predict local-hire teachers’ perceptions of compensation fairness at a statistically reliable level. These variables are: local-hire teachers’ perceived difference between personal compensation and compensation of local-hire teachers at other international schools, perception of contributions made by foreign-hire teachers, and local-hire teachers’ perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country. The remaining four variables analyzed in Hypothesis 1 were not empirically supported as statistically significant predictors of perceived compensation fairness. The analysis also suggests that—unlike in the international business sector—local-hire teachers’ perceptions of compensation fairness are not correlated with their willingness to assist and collaborate with their foreign-hire colleagues.

Research Question 1a. What is the relationship between international schools’ local-hire teachers’ perceived difference between personal compensation and compensation of foreign-hire teachers at the same school? This study did not show any significant correlation
between these two variables. As such, Hypothesis 1a was not supported. Because local-hire teachers’ perceptions of compensation fairness do not appear directly correlated to the compensation received by their foreign-hire colleagues, it implies that participants in this study did not choose foreign-hire teachers as their primary social referent. Initially, these results were surprising to me because I felt adamant that the experiences of local-hire teachers were influenced by the foreign-hire teachers at their school. It was only later that I realized the manner of influence was less related to pay differentials and more related to contributions of foreign-hire teachers.

**Research Question 1b.** *What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and their perceived difference between personal compensation and compensation of local-hire teachers at other international schools?*

There was a moderate negative correlation between these two variables. This means that local-hire teachers in this sample are likely to have higher feelings of compensation fairness if they perceive the compensations of local-hire teachers at other international schools to be smaller than their own. Conversely, local-hire teachers in this study are likely to have decreased feelings of compensation fairness if they also believe local-hire teachers at other international schools receive a greater compensation than their own. When the regression coefficients were standardized, this variable was the second-highest contributing factor to the overall model which predicted perceived compensation fairness.

These results support Hypothesis 1b. Overall, they imply that local-hire teachers may be using local-hire teachers at other international schools, not local-hire teachers at their own school, as their most significant social referent when determining how they feel about their compensation. However, because the response rate for this item was so low \((n = 47)\), I
questioned the validity of the impact of this variable and re-ran the regression model without it. I discuss these results later in this chapter when I revisit the idea of Social Referent Theory, which I first introduced in Chapter 2.

**Research Question 1c.** *What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and their perceived difference between personal compensation and compensation of local teachers at public, domestic schools in the host country?* Although the results of this study indicated a statistically significant correlation between these two variables \((p = .019)\), the actual correlation coefficient is very small \((r = -.250)\). Thus, although \(\text{comp}_\text{diff}_{\text{LHT}_\text{other}}\) does appear to be significantly correlated to perceptions of compensation fairness, its potential impact on this dependent variable is quite small. This implies that local-hire teachers in this study did not choose local teachers at public, domestic schools as significant social referents. However, additional analysis revealed that when the variable \(\text{comp}_\text{diff}_{\text{LHT}_\text{other}}\) was removed from the regression model, this variable took its place as a statistically significant predictor of perceived compensation fairness.

**Research Question 1d.** *What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and their perception of contributions made by foreign-hire teachers?* The data demonstrated a statistically significant correlation between these two variables. Local-hire teachers’ perception of contributions made by foreign-hire teachers was one of the two statistically significant predictive variables in the regression model.

Overall, I was not surprised by these results. Bonache et al.’s (2009) study also demonstrated that feelings of compensation unfairness among local-hire employees were offset when they perceived the contributions of their foreign-hire colleagues to be significant. In other
words, the relationship between a split-market pay differential and feelings of pay unfairness among local-hire employees were moderated by high perceptions of foreign-hire contributions. I was, however, surprised to see the level of impact this variable had on the model. For the independent variable FHT_contributions, B = .474 and β = .477. This made FHT_contributions the most significant of the independent variables in the regression model. In the original regression model, it even outweighed the impact of comp_diff_LHT_other IS. When the regression model was recalculated with comp_diff_LHT_other IS and FHT_contributions as the only two independent variables, the standardized coefficient of each variable was nearly equal in magnitude but opposite in direction so that: β: comp_diff_LHT_other IS = - .490 and β: FHT_contributions = .486. This implies that if there is a large pay differential between local-hire teachers and their counterparts at other international schools, then the negative impact this may have on their perception of compensation fairness might be offset by a high perception of foreign-hire contributions at their own school.

**Research Question 1e.** What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and whether or not a tuition-waiver is received so that their dependents may attend the international school in which they work? The data in this study do not indicate a significant correlation between these two variables. I was also surprised to see this variable was not significantly impactful on the regression model, because I still feel that tuition waivers for dependents can affect the experiences of local-hire teachers. This is based on my qualitative observations and the work of Ettie Zilber (2009) in her book *Third Culture Kids – The Children of Educators in Internationals Schools*. Zilber posits that international parent-educators can actually benefit their schools in several ways. On average, international school teachers whose children attend the same school have increased longevity at
their schools. They also demonstrate increased commitment and are more likely to adopt new policies and practices because they could see the potential benefits to their own children (Zilber, 2009). However, as I mention below, this may simply be the topic for a future study.

**Research Question 1f.** *What is the relationship between international schools’ local-hire teachers’ perceived compensation fairness and their perception of systems of communication and promotion opportunities?* The results of this study did not show a statistically significant correlation between these two variables. Once again, I was surprised, because my qualitative observations imply that systems of communication and promotion are relevant to the experiences of local-hire teachers. For example, the following two comments were submitted as answers to Question 20 which encouraged participants to “include any comments here about your personal experiences as a local-hire teacher working at an international school.”

Foreign teachers come and go, but for local teachers who have been working at [the international] school for extended periods of time, nothing changes. They literally continue at the same position and pay as long as they decide to prolong their employment. There is no system of promotion or reward for local staff (Anonymous Participant B).

Not only is the system of compensation unfair, but so is the overall system of making decisions. I perceive that my foreign hire colleagues' opinions are considered more important than those of local hires. Also, [the] school's decision-making processes are completely non-transparent, especially with local hires. The system is not intended to be effective for local hires (Anonymous Participant C).

Again, in light of this qualitative evidence, I believe future studies into this variable are not only merited, but also necessary.
Research Question 2. What is the relationship between local-hire teachers’ perceived compensation fairness and their willingness to assist and collaborate with foreign-hire teachers?

Data analysis did not reveal any significant correlation between these two variables. In light of the reviewed literature, this was quite surprising and will be discussed further.

Additional Analyses

Simplified regression model. One purpose of multiple regression analysis is to create a functional model which, given specific values for the independent variables, can accurately predict the value of the dependent variable. The original regression model included six independent variables. Only two of these variables proved to be statistically significant contributors to the regression model (comp_diff_LHT_other IS and FHT_contributions). Thus, in an attempt to simplify the original regression model, I removed all insignificant independent variables and ran a new regression. The simplified model contained only two independent variables (comp_diff_LHT_other IS and FHT_contributions), and appeared able to predict values of the dependent variable (comp_fairness) at a statistically significant level. I will discuss the implications of this simplified, working regression model in subsequent sections.

Social referents. Nearly half of participants (39) noted that they were unaware of the compensation of local-hire teachers at other international schools. This means that $n = 47$ for analysis of the independent variable comp_diff_LHT_Other IS. Because this was such a low number, I wondered about the experiences of the 39 participants whose responses to this question were excluded. If the impact of comp_diff_LHT_Other IS was excluded from the model, would a different social referent take its place?

Therefore, I ran the original multiple regression model one more time excluding the variable of comp_diff_LHT_Other IS. The $R^2$ value of the resulting model decreased, indicating
that the new model was no longer such an accurate fit of the data. However, it remained statistically significant, and \textit{comp\_diff\_LT\_domestic} replaced \textit{comp\_diff\_LHT\_Other IS} as the second largest contributor to the overall model. This implies that if local-hire teachers at other international schools are not available as social referents, then local-hire teachers will choose local teachers at public, domestic schools as their social referent when determining compensation fairness. I was very interested in this apparent hierarchy of social referents and discuss this further in the context of Social Referent Theory.

**Discussion and Connections to the Literature**

**Social Equity Theory.** As introduced in Chapter 2, Social Equity Theory provides a model which explains the way in which an individual decides if a situation is \textit{fair} or \textit{unfair} (Adams, 1963). Per Adams (1963), this process involves the personal tallying of situational inputs and outputs with a final determination of which factor is more substantial to the individual: the inputs or outputs. If the sum of the inputs appears greater than the sum of the outputs, then the situation will likely be deemed \textit{unfair}. However, if the sum of the outputs is perceived as greater than the sum of the inputs, then the individual will likely deem the situation to be \textit{fair}. Judging the fairness of compensation in this manner creates a component of overall compensation fairness which is known as \textit{performance-based distributive justice} (Leung et al., 1996; Rice et al., 1990).

When the data from this study was analyzed, it revealed the average value of participants’ perceptions of compensation fairness to be -0.0698. The additive index used in this study to measure local-hire teachers’ perceptions of compensation fairness ranged from -12 to 12. A score of -12 indicated the strongest possible feelings of compensation unfairness. A score of 12 indicated the strongest possible feelings of compensation fairness. A value of zero corresponded
to “neither fair nor unfair.” It is important to note this because the calculated mean value of -0.0698 indicates that, on average, the local-hire teachers who participated in this study feel their compensation is “neither fair nor unfair.” In other words, on average, the participants of this study felt that their occupational inputs were nearly equal to the outputs.

I was extremely surprised by this nearly-neutral mean, because I expected the average score to be much lower. This higher-than-expected mean should not be interpreted to imply that local-hire teachers are “satisfied” or “happy” with their overall compensation—the average score is still notably lower than “fair.” However, it is a reminder that many factors influence a person’s perception of fairness.

**Social Referent Theory.** In 1972, Pritchard et al. demonstrated that individuals may judge the exact same situation to be fair or unfair based upon their choice of social referent. After reviewing Kulik and Ambrose’s (1992) Social Referent Theory model, I predicted that local-hire teachers were more likely to choose an external social referent (e.g., foreign-hire teachers at their school) when determining feelings of compensation fairness. This component of compensation fairness is referred to as *comparative distributive justice* (Leung et al., 1996; Rice et al., 1990).

If local-hire teachers are choosing foreign-hire teachers as their social referent, then I predicted that they would also have a low level of comparative distributive justice. This, in turn, would contribute to perceptions of compensation unfairness. In fact, the relationship between pay_diff_FHT and comp_fairness was shown to be statistically insignificant. Local-hire teachers at other international schools were shown to be the more valid social referents.

Overall, this provides one explanation for why the mean value of compensation fairness was so close to neutral—rather than being closer to “unfair” as I predicted. The mean score for
comp_diff_FHT was 1.6125 on the ±2 Likert scale. This means the average respondent perceived the compensation of foreign-hire teachers to be far greater than their own. On the other hand, the mean score for comp_diff_LHT_other IS (.7872) was less than half of the comp_diff_FHT mean. This indicates that local-hire teachers feel there is a smaller gap between their own compensation and that of their counterparts at other internationals schools. Therefore, if local-hire teachers are choosing local-hire teachers at other international schools as their social referent and they perceive a smaller compensation gap between themselves and these referents, then it makes sense that their comparative distributive justice will be higher than I predicted. Therefore, these local-hire teachers will have higher compensation fairness scores than I initially predicted.

Local-hire teachers at other international schools may not be available as social referents if there is only one international school in the city. Likewise, if teachers from international schools in the same region do not regularly interact, they may be unaware of one another’s compensation packages. This would account for the multiple participants in this study who were unable to answer the question measuring comp_diff_LHT_other IS. I assumed that if this were the case, then foreign-hire teachers would become the preferred social referent. However, I was wrong once again.

According to my additional analyses, it appears that when local-hire teachers are determining the comparative distributive justice of their compensation, they are first comparing themselves to local-hire teachers at other international schools. The next most important social referent is local teachers at public, domestic schools. The least important social referent appears to be foreign-hire teachers. This, however, should not be interpreted to mean that foreign-hire teachers do not influence the experiences of local-hire teachers in a split labor market. Rather,
their contributions were shown to have an impact of nearly equal magnitude to that of the pay
differential between local-hire teachers and their social referent.

Thus, I find it interesting to revisit the idea of comparative distributive justice as a component of perceived compensation fairness. In one sense, this factor seems to be explained by the regression model created for this study. Local-hire teachers primarily compare themselves to their counterparts at other international schools, so their perception of compensation fairness is higher than it would be if they compared themselves to their foreign-hire colleagues. However, there appears to be an additional element of comparative distributive justice. It seems that local-hire teachers may not only be comparing their compensation to that of their chosen social referent. They may also be comparing their contributions. If this were the case, it would be interesting to measure the input of a new independent variable on the regression model: perceived contribution differences.

**Comparison to multinational companies.** In some ways, the conclusions of this study correspond to similar studies in multinational companies. Local-hire teachers are aware of pay differentials in the split market setting where they work. Likewise, their feelings of compensation fairness are related to the size of their perceived difference between their own compensation and that of their social referent. As in the business sector, his sense of compensation fairness may be affected by their perception of contributions by foreign-hire colleagues.

However, the findings of this study differ from those performed in multinational companies in one very important way. That is, absolutely no evidence was found to support the claim that feelings of compensation unfairness among local-hire teachers would correlate with a decreased willingness to assist and collaborate with foreign-hire teachers. This implies that not
all theoretical models developed in the international business sector may be generalized to the international education community.

Limitations

This study had several notable limitations: (a) many items in the survey were not adequately validated, (b) the population size was small, (c) most participants were not surveyed in their native language, (d) self-selection bias may have occurred during sampling, (e) potential outliers were identified during data analysis, (f) the independent variables were mostly economic in nature, and (g) results may have been affected by participants’ fear of anonymity. I made a concerted attempt to control each of these limitations as much as possible.

Despite my efforts, I cannot say this study was conducted without some experimental error. For example, although participants’ identities have remained anonymous, the results of this study will ultimately be published in a manner accessible to the general public. Participants may have been fearful that—despite my efforts—their name could somehow be linked to these results. If a local-hire teacher feared this might cause them to lose favor, status, or employment at their international school, then they may have been less willing to participate in a forthcoming manner.

Were I to repeat the study again, I would spend more time validating the survey questions and recruiting a larger population. A larger sample size and a more legitimate measurement tool would lead to results which might be considered more statistically significant. Furthermore, I would like to expand this study to include more relational variables in the model. These variables may include perceptions of support, collegiality and collaboration between local- and foreign-hire teachers. I am hopeful that the results of this study may interest other international
schools. If this were the case, I could begin the study anew with a fresh sample and an awareness of the limitations I would like to fix.

**Implications**

This study has several implications for the international school community. As discussed in Chapter 2, teachers who are dissatisfied with aspects of their employment report lower feelings of self-efficacy (Aldridge & Fraser, 2016; Caprara, Barbaranelli, Steca, & Malone, 2006; Gkolia et al., 2014). This implies that if local-hire teachers do not have a high sense of compensation fairness, then it could certainly lead to lowered perceptions of self-efficacy.

The next interesting implication is that local-hire teachers’ perceptions of compensation fairness can be predicted. The model of regression prepared during data analysis predicts feelings of compensation fairness among local-hire teachers at a statistically significant level. This is not to say that the model is complete. A more refined predictive model would include a multitude of other variables. For example, as mentioned above, I did not test any relationship-based variables in this model. How a teacher feels about their relationships and other interpersonal dynamics at school could possibly affect their feelings of compensation fairness. Despite the fact that the regression model is likely incomplete, the results of my study do imply that feelings of compensation fairness can be predicted. Furthermore, at least two economic variables do belong in a complete model.

Another implication is that local-hire teachers will continue to assist and collaborate with their foreign-hire colleagues even if they feel their compensation is unfair. I have already noted that feelings of inequity in split labor markets can lead to intra-employee strife in the business sector. Some of these negative outcomes include decreased desires and efforts by local staff towards communication and collaboration with their international colleagues (Bonache et al.,
So the fact that this was not observed in this study is quite interesting. It implies that studies from the business sector may not necessarily be generalized and applied to educational settings.

Once again, it is possible that these interesting results are the outcome of untested relationship-based variables. Perhaps local-hire teachers continue to assist and collaborate because colleagues form closer relationships in international school settings. Maybe a certain kind of personality is drawn towards working in educational settings with individuals from other cultures. It is possible that local-hire teachers feel empathy for their foreign-hire colleagues who are often living far from home and trying to assimilate to the local culture. I can make suppositions about the reasons behind this phenomenon, but I cannot back any of these thoughts with evidence. Why, unlike in the split labor business sector, local-hire teachers continue to support and collaborate with their foreign-hire colleagues is a topic for future study.

**Recommendations**

Several solutions to this problem of the split labor market have been suggested for the international business sector. Mahajan (2011) recommends Culturally Aligned Pay Models. Others note the importance of cross-cultural training and sensitivity (Chen et al., 2002; Toh and Denisi, 2007). Personally, I recommend a combination of these two approaches. International schools must be diligent when it comes to maintaining the cultural competence of its staff. Likewise, these schools must explore a variety of options—monetary and non-monetary—of increasing the compensation/output of local-hire teachers. Finally, I have three specific recommendations for international school administrators:

**Be aware of the local job market.** If there is another international school in the community, be aware of the compensation packages received by their local-hire employees. The
amount by which a school’s local-hire compensation package exceeds or lags behind the packages of offered by other international schools may significantly impact employees’ sense of compensation fairness.

**Monitor the contributions of foreign-hire teachers.** Foreign-hire teachers are being compensated at a much greater rate than their local-hire colleagues. As such, it is reasonable to require more of these employees. Extra-curricular assignments such as coaching, tutoring, and chaperoning may be mandated. Likewise, these teachers should be held to the highest standards of professionalism. It is reasonable to require foreign-hire teachers to earn their status as the highest-paid educators at an international school.

**Communicate more with local-hire teachers.** Be aware that the continued assistance and collaboration of local-hire teachers may not be an indication of their job satisfaction. In fact, there may be many aspects of local-hire teachers’ experiences that are not well-understood by their foreign-hire colleagues. As one individual described:

> Foreign hires are mostly unaware of the challenges faced by the local hires, such as transportation especially when living far from the campus, children being in other schools, relatives requiring financial support, daily chores, etc. Because of these challenges, it could be very difficult to perform some extracurricular duties or participate in social gatherings (Anonymous Survey Participant D).

Making a deliberate effort to increase communication with this valuable group of teachers costs nothing, yet could have invaluable results.

**Recommendations for Future Research**

As I noted in Chapters 1 and 2, there is very little published literature on the experiences of local-hire teachers at international schools. Therefore, I recommend further research on this
important topic. For example, despite the lack of statistical evidence, I still think there are connections between the experiences of local-hire teachers and whether or not their dependents receive tuition waivers. Likewise, I feel there is strong qualitative evidence suggesting systems of communication and promotion are a factor related to local-hire teachers’ feelings of job satisfaction.

Because most of my hypotheses were not supported, perhaps qualitative research is the best place to begin. A qualitative study into the experiences of local-hire teachers as they relate to topics such as scholarships for children and systems of communication and promotion might better illuminate trends and possible relationships. These results, in turn, could better guide more effective quantitative research studies on these topics.

A final area of potential research is the experiences of foreign-hire teachers in a split labor market. I initiated this study because my own feelings about working in this kind of environment were so strong. Certainly, the experiences of other foreign-hire teachers are equally impacted by split labor markets.

**Personal Reflections**

As a science teacher, I never realized how much I still had to learn about research methodology. When variables are not overtly quantitative and cannot be measured with instruments like thermometers and beakers, a whole different dimension of data collection is introduced. Before this study, I had never operationalized constructs or considered the importance of validating a survey question. I am now much more attuned to a different branch of research, and I look forward to more studies in the future.

I am grateful that I stuck to my instincts to make this a quantitative study. Numbers are a language which I speak comfortably, and I found the process of writing Chapter 4 truly
enjoyable. I am also grateful to whomever advised me to choose my dissertation topic as early as possible during my doctoral program. I identified the topic of split labor markets at international schools during my first semester of classes, and my passion for the subject has only grown over the past five years.

Although local-hire teachers rarely speak out on the topic of split labor markets, I found that—given the opportunity—most local-hire teachers do have something to say. I hope that in some way, I have provided an opportunity for this community to share feedback about their experiences in a split labor market. Overall, I also hope this research pays tribute to this important, yet often under-valued, community of educators.

**Closing**

The mission statements of international schools often center on the importance of global cooperation and cross-cultural understanding. For example, International School Services—an organization which has assisted in the creation of over 90 international schools worldwide—states they strive to cultivate “a world-wide community united across time zones and cultures by a common set of values; meeting and welcoming global differences with an open, tempered and reflective mind” (International School Services, 2014). When international schools purport such a mission, and then enact a split labor market, they contradict themselves. Rather than supporting cross-cultural cohesion, split labor markets may promote ethnocentric division and wage discrimination.

Like many educational institutes, international schools take on much more than the academic education of their students. Whether it is publically acknowledged or tacitly taught, moral education of students is pervasive at these schools (Hayden et al., 2002). Despite this,
many schools exhibit insincerity by not exemplifying the values which they teach. Namely, these purported values include international understanding and collaboration.

Although international schools may cite several reasons why they are locked into split labor market systems, certain non-fiscal approaches may partially offset the negative effects of these discriminatory practices. Providing equity for local-hire teachers may not necessary require equal pay. Rather, awareness of the local job market, monitoring of foreign-hire contributions, and increased efforts at communication with local-hire staff may all be beneficial to the international school’s work environment.

Split labor practices in international schools create a hierarchical system which is challenged by few. As such, the contributions of local-hire teachers may be continuously devalued. Split labor markets tacitly excuse educators from learning and valuing one another’s strengths by pre-defining the “worth” of various teachers based upon their nationalities. International schools claim to value multi-lingual/cultural individuals. Despite this, their own multi-lingual/cultural employees are often categorically pushed to the bottom of a split labor market.

Most international education research focuses on the experiences of the expatriate. However, in this study, I shifted the focus onto the experiences of local-hire teachers. By providing a voice for this under-appreciated group of impressive educators, I hope to make a small impact on their experiences. Hence, although I opened this study with a message of frustration, I will close it with a message of hope from one of my local-hire colleagues:

It’s a good experience to work at a school like this. It’s a different system of education in comparison [sic] with local schools. There are good opportunities for the future and
[ex]changing international knowledge with new friends. Thank you for the survey!

(Anonymous Survey Participant E)
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http://www.tieonline.com/

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http://dx.doi.org/10.5465/AMR.1992.4279534


https://statistics.laerd.com


GENERAL INFORMATION ABOUT THE RESPONDENT
Please mark one box in each of the following categories, indicating the answer most relevant to you. Please mark each box with an ‘x’.

1. Position
   - Senior management
   - Middle management
   - Specialist (eg – engineer)
   - Employee (eg – administrative position)
   - Other
     If other, please specify: __________

2. Age
   - Younger than 35 years old
   - Between 36 and 50 years old
   - Older than 50 years old

3. Sex
   - Male
   - Female

4. Nationality
   Specify here: ________________

5. Education
   - Master of above
   - Bachelor degree or equivalent
   - Secondary level or equivalent
   - Other

GENERAL INFORMATION ABOUT THE EXPATRIATE
Please think of an expatriate with whom you have worked with / are working within your company. We shall henceforth refer to this person as the expatriate.

6. What position does the expatriate hold?
   - Senior management
   - Middle management
   - Specialist (for example – an engineer)
   - Employee
   - Other
7. What is the nationality of expatriate?
   Specify here: ______________________

8. Please indicate to what extent you were / are satisfied with the following aspects of the expatriate’s work.

<table>
<thead>
<tr>
<th></th>
<th>Very Dissatisfied</th>
<th>Fairly Dissatisfied</th>
<th>Neither Satisfied nor Dissatisfied</th>
<th>Fairly Satisfied</th>
<th>Very Satisfied</th>
</tr>
</thead>
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<tr>
<td>His/Her kindness and consideration</td>
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<td></td>
<td></td>
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<tr>
<td>The professional support you receive from him/her</td>
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<td>To what extent he/she takes into account your opinions</td>
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<tr>
<td>Professional skills and abilities</td>
<td></td>
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</table>

9. How often did / do you see and work with the expatriate?
   - □ Constantly
   - □ Very frequently
   - □ Occasionally

10. Compared to your salary, the expatriate receives (please mark with an ‘x’ the most appropriate answer):
   - □ A far higher salary than yours
   - □ A higher salary that [sic] yours
   - □ A similar salary to yours
   - □ A lower salary than yours
   - □ Entirely unaware of the expatriate’s salary

11. We have listed a number of reasons as to why an expatriate may receive a higher salary than his national counterparts. Please indicate to what extent you are in agreement with these reasons as regards to the expatriate in question.

<table>
<thead>
<tr>
<th>The expatriate</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
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<tbody>
<tr>
<td>Has a high level of professionalism</td>
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<tr>
<td>Helps increase our sales and / or improves the organization of our company</td>
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<td>Improves and develops our relations with our head office and / or with our offices in other countries</td>
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<tr>
<td>Has made a number of large sacrifices to live and work here (for example: has left his / her family and friends)</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
QUESTIONS ABOUT YOU AND YOUR COMPANY

12. How would you rate your salary compared with that of other employees in similar positions in other multinational companies?

- □ A far higher salary than yours
- □ A higher salary that [sic] yours
- □ A similar salary to yours
- □ A lower salary than yours
- □ Entirely unaware of the salaries in other multinational companies

How would you rate your salary compared with that of other employees in similar positions to you, working in domestic firms?

- □ A far higher salary than yours
- □ A higher salary that [sic] yours
- □ A similar salary to yours
- □ A lower salary than yours
- □ Entirely unaware of the salaries in other British companies

13. To what extent do you consider your salary is fair?

<table>
<thead>
<tr>
<th></th>
<th>Very unfair</th>
<th>Fairly Unfair</th>
<th>Neither Fair nor Unfair</th>
<th>Fairly fair</th>
<th>Very fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>As regards to the amount of work you do</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>As regards to the salaries other employees in similar positions receive from other multinational companies</td>
<td></td>
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</tr>
<tr>
<td>As regards to the salaries other employees in similar positions receive from domestic companies</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>As regards to that which the expatriates earn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14. Please indicate to what extent you agree with the following statements regarding the way in which you work.

<table>
<thead>
<tr>
<th></th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I help my colleagues as much as possible with their work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I voluntarily perform tasks that are not part of my job description</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If it is necessary, I stay in the office</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
until late to complete my tasks
I often offer suggestions as to how to improve the company
I help the expatriate as much as possible with his/her work
Help the expatriate to living in my country by offering him/her ideas and suggestions (places to visit, restaurants, etc…)

15. Please indicate to what extent you agree [with] the following statements regarding the systems of promotion and communication in your company?

<table>
<thead>
<tr>
<th>In this Company</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neither agree nor disagree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotions are dependent upon skills and abilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expatriates are preferred to domestic employees for senior management positions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The expatriates have greater benefits than their domestic colleagues</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Management is well informed as to what the employees think and do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management clearly puts across the strategies and objectives of the company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16. Does there exist any kind of discrimination in your company:

☐ Yes
☐ No

If your answer was yes, please indicate what type:

☐ As regards to age
☐ As regards to gender
☐ As regards to nationality
☐ Other (please indicate)

Finally, so that we can group the data by nationality, sector and size, please specify the name of your company:

_________________________________________________________
APPENDIX B

Modified Survey Questions Used by this Study

SECTION 1: Consent

1. Are you willing to participate in this survey?
   - Yes. I choose to participate in this survey.
   - No. I choose not to participate in this survey.

SECTION 2: Eligibility and Reminder of Confidentiality

2. I have read the information above and understand that this is an anonymous, voluntary survey for local-hire teachers.
   - Yes
   - No

3. I am a full-time, local-hire teacher.
   - Yes
   - No

4. I am a willing volunteer in this survey. I understand my answers are anonymous and will be kept private and confidential. I understand that I may stop this survey at any time.
   - Yes
   - No

5. I am comfortable proceeding with this survey in English.
   - Yes
   - No

SECTION 3: General Information About the Participant

6. Teaching contract
   - Local-Hire (local teacher with a local contract)
   - Local-Hire Expat (foreign teacher with a local contract)
   - ISD Local-Hire Expat (foreign teacher with a ISD local-hire contract)
   - ISD Foreign-Hire (foreign teacher with a ISD overseas-hire contract)
7. Age
   - □ 32 years or younger
   - □ Between 33 and 39 years
   - □ 40 years or older

8. Highest Level of Education
   - □ Secondary Level Degree/High School Diploma or equivalent
   - □ Local or Community College Degree or equivalent
   - □ Bachelor’s Degree or equivalent
   - □ Master’s Degree or equivalent
   - □ Doctoral Degree, PhD or equivalent
   - □ Other

9. I have a teaching license/certificate
   - □ Yes
   - □ No

10. One or more of my children receives a full or partial scholarship to attend the school where I work.
    - □ Yes
    - □ No
    - □ Not Applicable

SECTION 4

Please think of a foreign-hire teacher with whom you have worked – currently or in the past. This teacher should be someone who has similar job responsibilities to yours but is paid on a foreign-hire salary scale. Think of this particular individual when responding to all questions asking about a foreign-hire teacher.

11. What position does the foreign-hire teacher hold?
    - □ Full-time Teacher
    - □ Part-time Teacher
    - □ Teaching Assistant (Cooperating Teacher)
12. Compared to your compensation package, it seems this foreign-hire teacher receives:

☐ Far greater compensation than you
☐ Greater compensation than you
☐ Similar compensation to you
☐ Less compensation than you
☐ Far less compensation than you
☐ I am entirely unaware of the foreign-hire teacher’s compensation

13. Below is a list of several reasons why foreign-hire teachers may receive greater compensation than their local-hire colleagues. Please indicate to what extent you agree with regards to the foreign hire teacher you have been considering?

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>The foreign-hire teacher seems to have a high level of professionalism.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>The foreign-hire teachers seem to help attract students to our school and improves the level of education and activities at our school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>The foreign-hire teacher seems to improve and develop our school’s relationships with ISD Headquarters and with ISD schools in other locations</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>d.</td>
<td>The foreign-hire teacher regularly volunteers to perform unpaid tasks that are not part of their job description (such as chaperoning after-school events, coaching, tutoring and helping student clubs).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 5:

14. How does your compensation package seem to compare with that of local-hire teachers in similar positions at other international schools?

Local-hire teachers at other international schools seem to receive a compensation which is:

☐ Far greater than my compensation
☐ Greater than my compensation
☐ Similar to my compensation
☐ Less than my compensation
☐ Far less than my compensation
☐ I am entirely unaware of local-hire teachers’ compensations at other international schools

15. How does your compensation package seem to compare with that of teachers who are working at domestic (non-international) schools in the local community?

Teachers at domestic (non-international) schools in the local community seem to receive a compensation which is:
☐ Far greater than my compensation
☐ Greater than my compensation
☐ Similar to my compensation
☐ Less than my compensation
☐ Far less than my compensation
☐ I am entirely unaware of teachers’ compensations at other domestic (non-international) schools in the local community.

16. To what extent do you think your compensation is fair when compared to:

<table>
<thead>
<tr>
<th></th>
<th>Very unfair</th>
<th>Unfair</th>
<th>Neither fair nor unfair</th>
<th>Fair</th>
<th>Very fair</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. the amount of work you do?</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>b. your overall qualifications (such as certification, education and years of experience)?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>c. the salaries of local-hire teachers in similar positions at other international schools (not your school)?</td>
<td></td>
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</tr>
<tr>
<td>d. the salaries of local teachers in similar positions at domestic (non-international) schools in the local community?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. the salaries of foreign-hire teachers at your school?</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>f. the salaries of other local-hire teachers at your school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17. **Overall**, to what extent do you think your compensation is fair?

- Very unfair
- Unfair
- Neither unfair nor fair
- Fair
- Very fair

18. To what extent do you agree with the following statements regarding the way in which you work:

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree Strongly</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. I am willing to help my colleagues as much as possible with their work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. I volunteer to perform unpaid tasks that are not part of my job description (such as chaperoning after-school events, coaching, tutoring and helping student clubs).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. If it is necessary, I am willing to work extra, unpaid hours outside of the normal work day to complete my tasks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. I am willing to help foreign-hire teachers as much as possible with their work.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. I am willing to help foreign-hire teachers by offering ideas and suggestions about living in this country (places to visit, restaurants, etc…).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. I am willing to help foreign-hire teachers by offering language and translation assistance.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

19. To what extent do you agree with the following statements regarding the systems of promotion and communication in your international school?

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree nor Disagree</th>
<th>Agree Strongly</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Promotions are dependent only upon skills, abilities and experience.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Foreign-hire employees are preferred to local-hire employees for leadership and</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>administrative positions.</td>
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<td>--------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>I have the opportunity to be promoted into leadership and management positions.</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>It is effectively communicated to me that I am appreciated and valued as an important staff member at my school.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e.</td>
<td>I worry about losing my job.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f.</td>
<td>The ways in which I may increase my compensation are clearly defined and communicated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>g.</td>
<td>I feel comfortable sharing my opinions, concerns and ideas about my school with foreign-hire staff.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

20. Please feel free to include any comments here about your personal experiences as a local-hire teacher working at an international school.
APPENDIX C

Participant Consent Form

Thank you very much for your help. I am a teacher at ISD’s Almaty International School, and I am conducting research as part of my doctoral program in Education. I am currently investigating the experiences of local-hire teachers at international schools. My study will examine the perceptions of local-hire teachers related to their feelings of compensation fairness. I have asked you to participate in the following survey because you are:

- A full-time teacher
- A local-hire teacher
- A lead teacher -- not a para-professional, teaching assistant, or cooperating teacher

Participation in this research study involves taking an online survey. The survey will take approximately 10 – 15 minutes. Your responses are anonymous. Your participation is entirely voluntary, and you may withdraw from this study at any point without penalty. Again, your answers are completely anonymous. The survey does not contain any information which will be used to personally identify you, and I will store all the results in a password protected electronic file. The results of this survey will be used for scholarly purposes. They will be shared with representatives from George Fox University. As such, the contents of this survey have been reviewed according to George Fox University IRB regulations for research involving human subjects.

If you have any questions, please feel free to contact me at: rosekz@hotmail.com or my dissertation chair, Dr. Ginny Birky at gbirky@georgefox.edu.
Figure D1: Studentized Residual Values vs Unstandardized Predicted Value. This chart was visually inspected to determine if the assumption of a linear relationship between the two variables is evident. It was also used to test the assumption of homoscedasticity.
**Figure D2:** Partial Regression Plot of Comp_Fairness vs Comp_Diff_FHT. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (comp_diff_FHT).
Figure D3: Partial Regression Plot of Comp_Fairness vs Comp_Diff_LHT_Other IS. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (comp_diff_LHT_other IS).
Figure D4: Partial Regression Plot of Comp_Fairness vs Comp_Diff_LT_Domestic. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (comp_diff_LT_domestic).
Figure D5: Partial Regression Plot of Comp_Fairness vs FHT_C ontributions. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (FHT_contributions).
Figure D6: Partial Regression Plot of Comp_Fairness vs Tuition_Waiver. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (tuition_waiver).
Figure D7: Partial Regression Plot of Comp_Fairness vs Communication. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (communication).
Figure D8: Histogram of the Regression Standardized Residual for Comp_Fairness. This chart was examined in order to test for normal distribution of residuals.
Figure D9: P-P Plot of the Regression Standardized Residual for Comp_Fairness This chart was examined in order to test for normal distribution of residuals.
Hypothesis 2: Pearson’s Correlation Figures

Figure E1: Comp_Fairness vs Willingness_to_Assist. This chart was visually inspected to determine if the assumption of a linear relationship between the two variables is evident.
APPENDIX F

Additional Analysis 1: Modified Regression Model

Figure F1: Studentized Residual Values vs Unstandardized Predicted Values. This chart was visually inspected to determine if the assumption of a linear relationship between the two variables is evident. It was also used to test the assumption of homoscedasticity.
Figure F2: Partial Regression Plot of Comp_Fairness vs Comp_Diff_LHT_Other IS. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (comp_diff_LHT_other IS).
Figure F3: Partial Regression Plot of Comp_Fairness vs FHT_Contributions. This figure was examined to determine if a linear relationship exists between the dependent variable (comp-fairness) and this particular independent variable (FHT_contributions).
Figure F4: Histogram of the Regression Standardized Residual for Comp_Fairness. This chart was examined in order to test for normal distribution of residuals.
Figure F5: P-P Plot of the Regression Standardized Residual for Comp_Fairness. This chart was examined in order to test for normal distribution of residuals.