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International–local remuneration differences across six countries: Do they undermine poverty reduction work?

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Despite the rhetoric of a single global economy, professionals in poorer countries continue to be remunerated differently depending on whether they are compensated at a local vs. international rate. Project ADDUP (Are Development Discrepancies Undermining Performance?) surveyed 1290 expatriate and local professionals (response rate = 47%) from aid, education, government, and business sectors in (1) Island Nations (Papua New Guinea, Solomon Islands), (2) landlocked economies (Malaŵi, Uganda), and (3) emerging economies (India, China). Difference in pay was estimated using purchasing power parity, from the World Bank's *World Development Indicators 2007*. Psychological measures included self-reported pay and benefits (remuneration), self-attributed ability, remuneration comparison, sense of justice in remuneration, remuneration-related motivation, thoughts of turnover and thoughts about international mobility. We included control measures of candour, culture shock, cultural values (horizontal/vertical individualism/collectivism), personality (from the "big five"), job satisfaction and work engagement. Controlling for these and country (small effects) and organization effects (medium), (a) pay ratios between international and local workers exceeded what were perceived to be acceptable pay thresholds among respondents remunerated locally; who also reported a combination of a sense of relative (b) injustice and demotivation; which (c) together with job satisfaction/work engagement predicted turnover and international mobility. These findings question the wisdom of dual salary systems in general, expose and challenge a major contradiction between contemporary development policy and practice, and have a range of practical, organizational, and theoretical implications for poverty reduction work.

Keywords: Poverty reduction; International aid; Development work; Capacity development; Humanitarian; Work psychology.

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En dépit de la rhétorique d'une économie globale unique, les professionnels dans les pays plus pauvres continuent à être rémunérés différemment, selon un taux local ou international. Le projet ADDUP (*Are Development Discrepancies Undermining Performance?* – Est-ce que les écarts dans le développement nuisent à la performance?) a permis d'enquêter auprès de 1290 professionnels expatriés et locaux (taux de réponse = 47%) issus des secteurs des ressources d'aide, de l'éducation, du gouvernement et des entreprises, dans (1) les îles nationales (Papouasie-Nouvelle-Guinée, Iles Salomon), (2) les économies sans littoral (Malawi, Uganda) et (3) les économies émergentes (Inde, Chine). La différence de salaire a été estimée à partir de la parité du pouvoir d'achat, du document Indicateurs de développement dans le monde de la Banque mondiale (2007). Les mesures psychologiques incluaient le salaire et les bénéfices (rémunération) rapportés par les participants, l'habileté auto-attribuée, la comparaison de rémunération, le sentiment de justice à l'égard de la rémunération, la motivation reliée à la rémunération, les pensées à l'égard du roulement de personnel et les pensées à l'égard de la mobilité internationale. Nous avons inclu des mesures de contrôle sur la franchise, le choc culturel, les valeurs culturelles (individualisme/collectivisme horizontal/vertical), les cinq facteurs de personnalité (*Big Five*) la satisfaction à l'égard de l'emploi et l'engagement au travail. Après avoir contrôlé ces facteurs et le pays (petits effets), ainsi que les effets de l'organisation (effets moyens), les résultats ont indiqué que : (a) les ratios de salaire entre les travailleurs internationaux et locaux excédaient ce qui était perçu comme des seuils de salaire acceptables chez les répondants rémunérés localement; ces derniers ont également rapporté une combinaison de sentiments (b) d'injustice et de démotivation relatives; lesquels, (c) en combinaison avec la satisfaction à l'égard de l'emploi et l'engagement au travail, prédisaient le roulement de personnel et la mobilité internationale. Ces résultats remettent en question la sagesse des systèmes salariaux doubles en général, exposent et contestent une contradiction majeure entre la politique et la pratique contemporaines de développement et engendrent plusieurs implications pratiques, organisationnelles et théoriques pour le travail sur la réduction de la pauvreté.

A pesar de la retórica de la única economía global, los profesionales en países pobres siguen siendo remunerados de forma diferente, dependiendo si están siendo recompensados según la tarifa local vs. internacional. El proyecto ADDUP (¿Debilitan el Rendimiento las Discrepancias en Desarrollo?) encuestó a $N = 1290$ profesionales expatriados y locales (tasa de respuesta = 47%) de los sectores de asistencia, educación, gobierno y negocio en (1) Países insulares (Papúa Nueva Guinea, Islas Salomón), (2) economías sin litoral marítimo (Malawi, Uganda), y (3) economías emergentes (India, China). Las diferencias en pagos fueron estimadas mediante la Paridad del Poder Adquisitivo de los *Indicadores del Desarrollo Mundial 2007* del Banco Mundial. Las medidas psicológicas incluyeron los auto-informes sobre pagos y beneficios (remuneración), habilidad auto-atribuida, comparación de remuneración, sentido de justicia en la remuneración, motivación relacionada con la remuneración, pensamientos sobre la rotación de personal y la movilidad internacional. Hemos incluido las medidas de control de sinceridad, choque cultural, valores culturales (horizontal/vertical individualismo/colectivismo), personalidad (de los cinco grandes), satisfacción en el trabajo y el compromiso con el trabajo. Controlando estos efectos y los efectos del país (pequeños efectos) y los efectos de la organización (efectos medianos) (a) los ratios de pagas entre los trabajadores internacionales y locales excedieron los umbrales percibidos como aceptables entre los respondientes remunerados localmente quienes también han relatado una combinación de sentido relativo de (b) injusticia y desmotivación, los cuales (c) junto con la satisfacción en el trabajo / compromiso con el trabajo predijeron la rotación de personal y la movilidad internacional. Estos resultados cuestionan los sistemas de salarios duales en general, exponen y desafían mayor contradicción entre las políticas y prácticas del desarrollo contemporáneas y tienen una serie de implicaciones prácticas, organizacionales y teóricas para la reducción de la pobreza.

The United Nations' Millennium Development Goals are a "grand plan" to reduce poverty (Easterly, 2006). Grand goals work best when translated into context (Locke & Latham, 2002; Sachs, 2005). In poverty reduction, key contexts include health, education, and industry (Sinha & Holtzman, 1984). A common denominator across those settings is work, specifically *people working across cultures in organizations* (Global Task Force, Carr et al., 2008). Much of that work is collaborative "capacity development," which is supposed to entail the mutual transfer of learning via local–expatriate relations (Manning, 2006). There is however a fly in the collaborative cross-cultural ointment: Socio-*economic* differences, in basic pay and benefits–remuneration (Bloom, 1999). Across industry, education, and health, expatriate and local remuneration for similar work tasks often differ widely (MacLachlan & Carr, 2005). Along with extra benefits, double-digit ratios in pay, for instance, are not uncommon, even when workers have comparable knowledge, skills, and abilities (Ila'ava, 1999). Differences like this are potentially divisive, maintaining rather than reducing a status quo (Prilleltensky, 2003). They are also heavily ironic and arguably unethical

in any form of work that claims to address income-inequality (Lefkowitz, 2009).

POLICY

Not surprisingly perhaps, discussion around remuneration differences between expatriate and local workers is taboo; a sentiment that has left the topic almost completely unresearched. According to the International Labour Organization, "presenting aspirations, facts and experiences on submerged issues and unearthing ignored concerns" is integral to poverty reduction, specifically its *Agenda for Decent Work* (Yiu & Saner, 2005, p. 3). More generally, remunerative differences are at odds with the Millennium Development Goals (www.aidharmonization.org/secondary-pages/Paris2005). Two of their core principles are "alignment" (with local aspirations) and "harmonization" (noncompetitiveness between donor agencies, for efficiency). Yet the fabric of development work is permeated with remunerative differences, first between expatriate and local workers, and second from expatriate to expatriate (international agencies pay different rates). From a policy perspective, therefore, development remuneration is neither aligned nor harmonized.

RESPONSIVENESS

Against a backdrop of development policy, this special section is the first report of a systematic study of multi-country remunerative differences, and their management, in poverty reduction work. Like decent work, the principles of alignment and harmonization have both practical and moral/ethical edges. Practically, unjust pay differences may prevent teamwork and impede the delivery of effective poverty reduction initiatives. They may also prevent aid funds from "trickling down" through the development worker's immediate and/or extended family network, and into the local economy. Over time, this process forces local workers and their families—especially poorer ones—to the periphery (Marai et al., 2010 this issue). Ethically, it does not seem to make sense to replicate the very inequities one seeks to reduce. More fundamentally, remunerating the same job differently seems simply unjust. Research is not above or apart from such ethical concerns (Leach & Harbin, 1997). It can *advocate* for justice rather than being an apologist servant of power (Baritz, 1960; Lefkowitz, 2008).

THEORY AND RESEARCH

We base our predictions on social comparison theory (Festinger, 1954). A key form of social comparison is between abilities. According to Festinger (1954), people are generally motivated to evaluate their abilities against similar others, hoping to emerge comparatively well (Corollary IIIA, p. 121). A psychologically salient comparison other is likely to be one's colleague in the same job, especially in the same organization (MacLachlan, Carr, & McAuliffe, 2010). A salient indicator of worth is likely to be remuneration (Carr, in press). Although Festinger (1954) cautioned against over-generalizing ability comparison across cultures (pp. 124–125), organizational cultures are unlikely to be entirely free of such influences (Carr, 2004). Furthermore, many lower-income countries have invested considerably in training and qualifying local professional workers to a standard comparable with expatriate labour (Manning, 2006). Hence we expect:

> H_1: Independently of remuneration type (international vs. local), equivalently skilled coworkers will compare their remuneration with each other.

According to Festinger (1954), ability comparison creates dynamic tension in a group, as one group emerges above another, resulting in a lack of social "quiescence" (p. 127). In order to predict how tension will play out in a workplace, we can apply another influential theory about comparison at work, equity theory (Adams, 1965). Its central proposition is that coworkers will compare their outcomes-for-inputs with each other, and strive for balance in their own ratio, *vis-à-vis* that of other(s). For example, the fact that I receive twice your remuneration (outputs) may be counterbalanced by a fact that I am twice as qualified, or work twice as many hours (inputs). On the other side of the same relationship, if I am the lower-paid worker, I may accept that I work only half as hard. If, however, I believe that we work equally hard I will experience inequity, or injustice. According to Adams (1965), this is a drive state, aimed at reducing sense of inequity. A similar motivational

state will apply to a higher-paid counterpart if their remuneration feels to them disproportionate to their inputs. For instance, they may decide to work harder (increase inputs) in order to justify a higher remuneration and thereby restore equity, or more likely when gaps are too large to be made up by sheer hard work, they may simply *convince* themselves that they work harder in order to achieve the same feeling.

Since equity theory was originally propounded, the motive for equity has been differentiated from motives for equality and need, which vary in salience across societal cultures (Greenberg, 2008). Equity theory has also been critiqued for implicitly assuming that comparison is invariably interindividual, rather than intergroup (Carr, 2004). This critique is crucial for our project since in many international settings, group categorizations such as "expat" vs. "local" and "local" vs. "international" salary are commonplace (MacLachlan, 1993). Social equity theory is a response to both criticisms (Carr, MacLachlan, & Campbell, 1997). The theory argues that groups, exactly like individuals, are motivated to evaluate their abilities by comparing remuneration (i.e., my group's outcomes-for-inputs against an out-group's outcomes-for-inputs) and to restore "social" (or intergroup) equity in the same manner as individuals (Carr, 2004). Furthermore, social equity may take precedence over both equality and need, especially in organizational settings, where feelings of inequity, inequality, and unmet need often add together to mutually reinforce a feeling of injustice (Carr, 2004).

One indicator of social inequity is guilt. In an organizational survey of aid-funded and local lecturers working at the University of Malawi (Carr, MacLachlan, & Chipande, 1998; MacLachlan & Carr, 2005), internationally salaried expatriate lecturers reported significantly more guilt about their comparatively large salaries than was reportedly detected by their local counterparts. Among local lecturers there were strong feelings that comparative remuneration was unfair, coupled with demotivation. Worryingly, these feelings went unnoticed by internationally remunerated expatriates. Overcoming such "blind spots" may be crucial in coordinating services (Bloom, 1999, p. 36), especially when people are working in interdependent roles (Siegel & Hambrick, 2005).

A further addition to Adams' (1965) equity theory (made in Carr et al., 1997) has been to point out that equity is not only about resource allocation, i.e., distributive justice (Greenberg, 2008). Focusing solely on distributive justice leaves out "procedural" justice (how allocation decisions are made) and "interactional" justice (how decisions are made, for example about who is paid what amount) as communicated to the employees who are receiving the differing amounts of pay and benefits. These forms of injustice can combine. In Greenberg's (2007) cascade model, perceived distributive injustices ("We are remunerated less, despite being equally well qualified") often lead to questions about procedural justice ("How was this unfair allocation of remuneration made?"), to interactional injustice ("we are not treated with respect, decisions are not explained properly"), and thence to work demotivation ("I am going to reduce my input!"). All three forms of injustice will be included in a measure of justice-at-work in this study. On it, we expect that, independent of remuneration type:

> *H_2:* Remunerative *comparison* between similarly skilled colleagues whose remuneration is widely discrepant will predict a sense of *injustice*.

Perceptions of injustice (vs. justice) are linked in the literature with outcomes such as demotivation (vs. motivation) at work (Latham, 2007). In higher education, for instance, Carr et al. (1998) and Marai (2002/2003) found that discrepancies in remuneration, between internationally and locally remunerated teachers, demotivated many. Within international joint ventures in the hotel sector in China, Leung, Wang, and Smith (2001) found that persistent income differentials between Chinese and international workers were demotivating (Chen, Choi, and Chi, 2002). Managers generally are often *unaware* when a sense of injustice is being experienced in "lower" ranks (Greenberg, 2008). This chimes with the taboo nature of remunerative differences in poverty work (MacLachlan et al., 2010). Hence we predict that:

> *H_3:* Perceptions of *injustice* will predict *demotivation*, especially among the less well remunerated.

Demotivation is not the only eventual outcome from remunerative comparison. In the service sector, for instance, hotel workers reporting higher levels of justice at work have shown lower rates of organizational turnover (Simons & Roberson, 2003). With expatriate/local salary ratios reportedly reaching 15 : 1 in some hotel joint ventures in "emerging" economies

(Chen et al., 2002), we predict that similar linkages will occur in other sectors, especially in lower-income countries (Carr, McAuliffe, & MacLachlan, 1998). Demotivation from remuneration discrepancies will further potentially *combine* with predictors of organizational turnover, job satisfaction (Fields, 2002), and work engagement (Schaufeli, Bakker, & Salanova, 2006).

H_4: Demotivation will predict cognitions about organizational *turnover*.

It is important to remember that injustice can be felt in higher- as well as lower-remunerated groups. Equalitarian values, for instance, may trigger twinges of guilt, and create social awkwardness around colleagues and peers who are remunerated locally. Such feelings may contribute to culture shock and associated risks of early return (Bhaskar-Shrinivas, Harrison, Shaffer, & Luk, 2005). Indeed, there may be a link between job satisfaction and international mobility (Sanchez, Sanz, & Aragon, 2007). From the ''other side'' of the social equity equation—and visa requirements etc. notwithstanding—for lower-remunerated groups, going to work in a wealthier economy is another means of restoring social equity, via the prospect of higher remuneration. Hence we predict that:

H_5: Turnover will predict cognitions about international *mobility*.

Time is an important component in these processes (Senge, 1992). In order to restore a sense of justice, workers may initially work harder to make up for better remuneration. However, no-one can sustainably work 10 or 15 times harder than a colleague who is paid 10 or 15 times less, as a means of restoring social equity. As a consequence, higher-remunerated groups may come to believe they are worth the extra rewards. Surreptitiously over time, and implicitly perhaps, ''I am remunerated more'' may become ''Maybe I am *worth* the difference!'' (Senge, 1992). Thus expatriates in Carr et al.'s (1998) organizational survey in Malawi reported a higher assessment of their own ability than that accorded to them by their local counterparts, bringing us full circle back to ability.

H_6: Independently of remuneration type, *comparison* of remuneration will be linked to an assessment of greater own *ability* relative to others'.

The overall process in H_1–H_6 is a *double demotivation*. Believing that one's own abilities are higher than they really are probably means working less hard than would otherwise be the case. Meanwhile lower-remunerated groups withdraw input and cooperation (''You are paid the higher rates, you do the work!''). Hence while *lower* remuneration reduces motivation on task and towards cooperation (H_3, demotivation 1), higher remuneration, too, might reduce effort and thus work output (demotivation 2).

AIM AND OBJECTIVES

Our chief *aim* is testing double demotivation—a potential barrier to poverty reduction—in low- and middle-income states, recognizing that many are landlocked or island nations, with particular reliance on technical cooperation as well as distinctive problems in relation to poverty reduction. Remunerative differences remain extant in some island nations (Higgins, 2008), other landlocked economies (in addition to Malawi), and emerging economies (Toh & DeNisi, 2003, 2005). Laboratory evidence implies that they might trouble higher- as well as lower-remunerated counterparts (Carr et al., 2005). However, we do not know which variables are generally salient, and which are particular to local context, organization and sector (Festing, Eidems, & Royer, 2007; Hodgetts & Luthans, 1993).

Project ADDUP (''Are Development Discrepancies Undermining Performance?'') is a multi-country, interdisciplinary, cross-sector research study. Given the quasi-secretive nature of remuneration in development work, *Objective 1* was to document the extent of pay differences across development-related work settings. *Objective 2* was to map psychological variables connected to differences in pay and benefits. H_1–H_6 as a set predicts a quasi-simplex pattern (Guttman, 1954), where measures of italicized variables adjacent in a sequence should correlate more closely with each other than with more distant neighbours (Alwin, 2007). For example, if B mediates between A and C, then A and B should correlate more closely than A and C. *Objective 3* was identifying appropriate levels of analysis (country, organization, individual). Ascertaining level of analysis is important for drawing correct

inferences statistically and practically (Gilbert & Shultz, 1998/1999; Scariano & Davenport, 1987). If *organization* matters, for instance, so too might organizational interventions.

METHOD

Sample

Sites

The sample was nested in oceanic nations the Solomon Islands ($n = 150$ individuals) and Papua New Guinea ($n = 200$); landlocked economies in Malawi ($n = 241$) and Uganda ($n = 217$); and in emerging economies India ($n = 233$) and China ($n = 249$). Overall response rate = 47% (50% for local workers, 37% for expatriates). There were $n = 298$ expatriates, from 42 different countries of origin. Linguistically, with the exception of Chinese respondents in China (Zhou et al., 2010 this issue), the lingua franca at work, and used in measures, was English.

Work

There were 202 organizations with a mean of 6.39 respondents per organization. Sectors included 60 aid organizations ($n = 294$ individuals), 40 government agencies ($n = 202$), 27 educational institutions ($n = 323$), and 75 business organizations ($n = 469$). These businesses were mostly ($n = 47/75$) in China and India. We asked whether respondents were expatriate ($n = 298$) or local ($n = 992$), and whether their salary was volunteer ($n = 93$), local ($n = 964$), or international ($n = 216$).

People

Total sample $N = 1290$, with 64% males and 36% females. Mean age was 36.51 years ($SD = 9.53$) and mean overall duration of experience was 9.39 years ($SD = 8.06$). More than 95% of the sample was tertiary-educated, with qualifications ranging from tertiary diploma (9%) and bachelor degree (37%) to postgraduate diploma (12%), master's degree (26%) and doctoral or postdoctoral qualified (9%). The proportion of expatriates to locals holding each level of qualification rose from approximately 1:6 for tertiary diploma to 1:2 for doctorate ($\chi^2 = 7.30$, $df = 4$, $p < .001$). Respectively, expatriate and local workers had mean years' experience of 11.70 ($SD = 9.74$) and 9.09 years ($SD = 14.06$) ($F = 8.23$, $df = 1$, $p < .005$, partial-eta-squared = .007). Participants paid an international salary had on average $M = 12.63$ years of experience ($SD = 9.72$), compared to 9.25 years ($SD = 14.22$) for their locally paid counterparts ($F = 10.31$, $df = 1$, $p = .001$, partial-eta-squared = .009).

Measures

Salary

Participants were asked the amount of pay they received, in the currency in which it is paid. Based on purchasing power parity (PPP), we used the conversion factor for private consumption taken from the World Bank's (2007) *World Development Indicators* to calculate "international dollar" equivalents of reported salary amounts. PPP computes the purchasing power of different currencies in their home economy for a given basket of food, taking account of the relative cost of living and inflation rates of different countries. Converting salaries into this "international dollar" enabled them to be compared across countries in the fairest possible manner. We also asked where the salary ratio between expatriate and local workers ceased to be acceptable (threshold from 2 up to >10 times), and if their remuneration (pay plus benefits) was sufficient to meet their everyday needs.

Variables in H_1–H_6

All variables were answered on a Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree), with 3 as the midpoint (neither agree nor disagree). Pecuniary items in themselves did not capture nonpecuniary benefits such as health insurance, electricity, security, furlough, school fees, and pension benefits. The remuneration items in Table 1 reflect pay and benefits combined. They were developed consultatively with in-country teams, using a combination of theory, research, and local "critical incidents" (MacLachlan & McAuliffe, 2005). None of the following attitudinal measures has to our knowledge been tested in low-income settings, indicating suitability for exploratory over confirmatory factor analysis. Factorability was assessed by the Kaiser-Meyer-Olkin statistic of sampling adequacy, and Bartlett's test of sphericity. We followed a protocol in Brown (2006). Because we aimed to explore underlying constructs, we chose factor analysis over principal components. We used principal axis factoring over maximum

TABLE 1
Exploratory factor solutions for the double demotivation measure by region and combined (loadings < .30 suppressed)

	Factor loadings			
	Combined	*Oceania*	*Africa*	*Asia*
Factor 1: Turnover	*(α = .94*	*.96*	*.93*	*.94)*
I think about leaving this job	.90	.93	.86	.87
I wish I could leave this job	.86	.84	.84	.85
I think about leaving this organization	.83	.84	.74	.86
I feel like leaving this job	.81	.89	.88	.66
I wish I could leave this organization	.78	.76	.73	.80
I feel like leaving this organization	.74	.72	.74	.72
Factor 2: Mobility	*(α = .92*	*.94*	*.93*	*.88)*
I wish I could leave this country	.87	.87	.91	.72
I think about leaving this country	.86	.80	.89	.72
I feel like leaving this country	.85	.84	.88	.76
Factor 3: Ability	*(α = .83*	*.84*	*.84*	*.81)*
I perform better than most expatriates	.78	.68	.87	.67
I have more ability than most expatriates	.75	.74	.81	.66
I perform better than most locals	.73	.72	.73	.75
I have more ability than most locals	.69	.78	.66	.72
Factor 4: Demotivation	*(α = .87*	*.87*	*.86*	*.86)*
It is awkward working with differently paid and benefited expatriates	.80	.83	.77	.76
It is awkward working with differently paid and benefited locals	.79	.73	.84	.76
I feel devalued by the pay and benefits received by expatriates	.72	.79	.66	.64
I feel devalued by the pay and benefits received by locals	.69	.64	.71	.62
I am demotivated by the pay and benefits received by expatriates	.64	.64	.58	.63
I am demotivated by the pay and benefits received by locals	.63	.49	.66	.60
Factor 5: Comparison	*(α = .74*	*.81*	*.74*	*.65)*
I am aware of the pay and benefits received by expatriates	.72	.76	.74	.65
I am aware of the pay and benefits received by locals	.70	.78	.65	.56
I compare my pay and benefits to the pay and benefits received by expatriates	.59	.53	.67	.57
I compare my pay and benefits to the pay and benefits received by locals	.54	.55	.59	.47
Factor 6: Justice	*(α = .80*	*.79*	*.79*	*.76)*
"I feel that there is fairness in the . . ."				
Process for allocating pay and benefits to locals	.73	.73	.72	.56
Process for allocating pay and benefits to expatriates	.69	.66	.70	.63
Share of pay and benefits given to locals	.68	.81	.62	.53
Share of pay and benefits given to expatriates	.63	.55	.68	.64
"I feel comfortable about my own pay and benefits compared to the . . ."				
Pay and benefits of expatriates	.58	.36*	.71	.59
Pay and benefits of locals	.50	.41	.45	.52
Total variance explained	66%	70%	68%	63%

*Cross-loads negatively on motivation/demotivation factor (−.44).

likelihood, because the former makes fewer distributional assumptions. We used a Scree test to suggest number of factors, and oblique rotation to allow for the predicted factor intercorrelation. We eliminated noninterpretable "factors" with only two or three salient loadings (poorly defined), and items that cross-loaded or demonstrated communalities of <.30. One item, from the social desirability measure of candour, had a communality ≈.20; however, it was retained as its factor loading was significant (Child, 1979). Following Bolitho et al. (2007), we checked factor reliability by re-running the analysis by region (we had insufficient power to replicate at country level). We used a Procrustean specification for number of factors extracted, with the overall solution as a guide. Significance of factor loadings was based on the Burt-Banks formula (Child, 1979). Satisfactorily reduced data were computed into mean scores per item/5, per factor.

Factor solutions for the variables contained in H_1–H_6 are given in Table 1. They emerged clearly and consistently across sample and regions, with little factor overlap and two-thirds of variance explained. Reliabilities were reasonable ($\alpha > .70$). Factors reflected the hypothesized variables,

TABLE 2
Exploratory factor solutions for covariates by region and combined (loadings < .30 suppressed)

	Factor loadings			
	Combined	*Oceania*	*Africa*	*Asia*
Factor 1: Culture shock	(*α* = *.75*	*.73*	*.73*	*.73*)
I feel confused about my role working with the new culture	.70	.74	.62	.68
I feel powerless when trying to cope with the new cultures	.66	.68	.60	.72
I have found things in my cross-cultural environment shocking	.58	.68	.60	.52
I'd like to escape from my cross-cultural environment altogether	.58	.54	.44	.64
I feel strain from the effort to adapt to people from different cultures at work	.48	.57	.64	.36[b]
Factor 2: Agreeableness/horizontal-collectivism	(*α* = *.71*	*.70*	*.73*	*.61*)
I generally try to be thoughtful and considerate (A)	.62	.60	.56	.61
I try to be courteous to everyone I meet (A)	.58	.62	.45	.57
I feel good when I cooperate with others (HC)	.49	.46	.67	[c]
The well-being of coworkers is important to me (HC)	.43	.52	.72	[d]
No matter who I'm talking to, I'm always a good listener (SD)	.42	.53	.45	.42
If a coworker gets a prize, I would feel proud (HC)	.36	.26	.55	
Factor 3: Candour	(*α* = *.71*	*.79*	*.67*	*.64*)
I often feel tense and jittery (N)	.71	.65	.61	.71
I often get angry at the way people treat me (N)	.64	.73	.60	.56
Under a great deal of stress, I sometimes feel like I'm going to pieces (N)	.53	.40	.49	.59
I sometimes feel resentful when I don't get my way (SD)	.42	.61	.48	.35
I sometimes try to get even rather than forgive and forget (SD)	.38	.64	.36	
Factor 4: Horizontal individualism	(*α* = *.57*	*.67*	*.60*	*.38*)
I often "do my own thing"	.67	.73	.91	.61
I rely on myself most of the time; I rarely rely on others	.54	.66	.51	.50[e]
Factor 5: Vertical individualism	(*α* = *.46*	*.46*	*.29*	*.53*)
When another person does better than I do, I get tense and aroused	.50	.25	.52	
Winning is everything	.48	.50	.53	.61
Factor 6: Vertical collectivism	(*α* = *.55*	*.58*	*.42*	*.60*)
Family members should stick together, no matter what sacrifices are required	.51	.64	.62	.62
It is my duty to take care of my family, even when I have to sacrifice what I want	.48	.55	.30[a]	.53
Total variance explained	55%	58%	54%	55%

[a]Item cross-loads on horizontal individualism factor in the same column (.32). [b]Item cross-loads on candour factor in the same column (.38). [c]Item cross-loads on vertical collectivism factor in the same column (.32). [d]Item cross-loads on vertical collectivism factor in the same column (.42). [e]Item cross-loads on vertical individualism factor in the same column (.57).

suggesting that both model and indicators have content validity.

Control variables

- *Culture Shock:* Seven items from Mumford's (1998) Culture Shock Questionnaire were slightly adapted for our study (original *α* = .75). Items appear in Table 2.
- *Cultural values:* Interspersed with the above measure was a 16-item measure of four dimensions in Triandis and Gelfand (1998): horizontal individualism, horizontal collectivism, vertical individualism, and vertical collectivism (*α* = .67–.70; see Table 2).
- *Social desirability:* The Socially Desirable Response Set in Hays, Hayashi, and Stewart (1989) was used (*α* = .66–.68). The five items were mixed with personality items from the "big five" traits neuroticism and agreeableness (McManus & Furnham, 2006). These have been linked with expatriate and local worker performance and turnover (Barger, 2002; Caligiuri, 2000; Hudson & Inkson, 2007; Kealey, 1989).

A factor solution for the measures of cultural values, culture shock, and social desirability is presented in Table 2. Six factors explained half of the variance. Culture shock emerged clearly as a factor. Agreeableness and horizontal collectivism fused into one factor (*α* = .71). Several items fused together from theoretically distinct measures of neuroticism and social desirability. Cronbach's alpha value (*α* = .71) was reasonable, with a common theme relevant to the daily stresses and strains of aid work (McFarlane, 2004; Wigley, 2005), which we termed, *candour*.

The remaining factors were less reliable, either within region or across the sample as a whole, but not both. They were, however, retained in the analyses.

- *Job satisfaction:* A three-item measure from the Michigan Organizational Assessment Questionnaire was used, Cammann, Fichman, Jenkins, & Klesh, 1983; Highhouse & Becker, 2005). The instrument predicts organizational commitment, job involvement, off-job focus and intent to leave (Fields, 2002, p. 5; $\alpha = .67–.95$; exemplar: "In general, I like working here").
- *Work engagement:* To gauge this inverse of burnout (Kahn, 1992), we used the nine-item short-form Utrecht Work Engagement Scale. This has been trialled internationally over 10 mostly higher-income countries (Schaufeli et al., 2006), though the construct itself is somewhat contested (Macey & Schneider, 2008; exemplar: "At my job, I feel full of energy"). Items were blended with the job satisfaction items.

Partly because they have yet to be convincingly differentiated from each other, and partly for reasons of statistical power, we factor-analyzed job satisfaction and work engagement measures together. One item was deleted due to low communality. Scree tests overall and separately by region showed one factor. Apart from one borderline significant item in Africa, all items loaded significantly, passing Harman's single-factor test (Podsakoff & Organ, 1986). $\alpha = .89$ and the solution explained 44% of the variance. The 11 items were thus combined into one index: *job satisfaction/work engagement*. A post-hoc factor analysis included all items in Tables 1 and 2, *plus* job satisfaction/work engagement items above. Control variables "vertical collectivism" and "agreeableness/horizontal collectivism" from Table 2 were explained by one factor. However, the remaining factors reflected the variables in Tables 1 and 2, with job satisfaction/work engagement emerging as one distinct factor; 52% of variance was explained. Hence these measures as used were largely free of common method variance.

PROCEDURE

Piloting suggested putting all items on a single Likert-type scale from 1 (strongly disagree) to 5 (strongly agree), with 3 (neither agree not disagree) as midpoint. Some items were removed, others reworded. Country research teams administered the questionnaire on paper (a consensus decision). Visits were made to potential collaborating institutions and organizations. An information sheet introduced the project by name, describing it as "an interdisciplinary project examining a range of issues in development work, from pay and conditions through to relationships between expatriate and local staff." Copies of the questionnaire and information sheet were left with gatekeepers, often in human resources, who agreed to distribute and in some cases collect them, anonymously, for pickup later. Several visits were usually made to each organization. Confidentiality and anonymity were guaranteed for individuals and organizations. The project had ethical approval from the coordinating institution (Massey University, New Zealand; Approval Numbers 07/101 & 08/003) and from appropriate in-country institutions.

RESULTS

How wide were the salary gaps?

Summary statistics for differences in pay are analyzed by place of origin and type of remuneration in Table 3. "Volunteer" salary type ($n = 51$; 27 expatriates and 24 local workers) had different meanings in different settings, and was omitted.

TABLE 3
PPP by salary type (international vs. local) and country of origin (expatriate vs. local), given in international dollars ($N = 822$)

	Salary type: International vs. local		
Expatriate vs. local	*International*	*Local*	*International–local ratio*
Expatriate worker	107,939 (50,261) $n = 95$	32,680 (15,194) $n = 26$	3.30 (3.31)
Local worker	90,805 $n = 22$	26,588 $n = 624$	3.42
Expatriate–local ratio	1.19 (0.55)	1.23 (0.57)	4.06 (1.89)

PPP in an expatriate's home country, as distinct from in-country, is given in parentheses.

From Table 3, a number of participants did not report their pay. This was due to contractual obligations and/or reluctance to divulge the information. We stress that caution must be exercised about the representativeness of this subsample. More than half the total sample ($n = 822$, 64% of the total sample) did respond, however. We proceeded on that (majority) basis.

Comparing the two predominant categories in Table 3 (expatriates drawing international vs. local workers drawing local remuneration), the expatriate workers drawing international remuneration received on average 4.06 times the sum paid to local workers in the sample. The ratios in Table 3 were derived by converting all salaries into the PPP locally, i.e., in-country. Some expatriate workers also indicated that they tend to compare pay with colleagues "back home." Hence an alternative value, for PPP back home, was also calculated (given in parentheses in Table 3). Considering this, locals' and expatriates' spending power in their respective home countries, the equivalent ratio fell to 1.89 : 1.

We saw earlier that qualification level varies with whether the worker is expatriate or local, and with remuneration type. Taking qualification brackets separately, ratios range from 3.61 : 1 in the local economy (1.66 : 1 in the home economy) for those with bachelor degrees ($n = 245$, local; $n = 24$, expatriate) and 5.02 : 1 locally (2.50 : 1 at home) for those holding postgraduate diplomas ($n = 73, 16$), to 4.09 : 1 locally (1.79 : 1 at home) for those with masters degrees ($n = 168, 35$) and 2.37 : 1 locally (1.07 : 1 at home) for those holding doctoral degrees ($n = 48, 13$). Averaging these figures, $M = 3.77 : 1$ in local context (1.76 in home context). Thus qualification differences in themselves did not alter pecuniary ratio substantially, though salaries for workers with doctorates were somewhat closer together than others.

Table 3 shows that some local workers received international remuneration and some expatriate workers received local remuneration. Among those remunerated locally there was a near-parity between expatriate and local workers. Near-parity also applied to groups with international remuneration. However, among local workers there was a difference between local and international salaries, of 3.42 : 1. Similarly among expatriate workers, the international-to-local salaries ratio was 3.30 : 1, suggesting that even within the category "international remuneration" the remuneration is not spread equitably. Local salaries paid to expatriate workers were worth less in the expatriate's home country (international$15,194) than was a local's salary (international$26,588, ratio = 0.57 : 1). An expatriate's international salary back home (international$50,261) was worth less on average in PPP terms than a local worker's international salary in-country (international$90,805, ratio = 0.55 : 1). Empirically, therefore, the salaries sampled were neither (1) aligned nor (2) harmonized.

Poverty at work

Asked at what ratio salary differences between expatriates and local workers became "unacceptably large," the modal threshold for the sample as a whole ($N = 1269$) fell between 2 (frequency = 250) and 3 (frequency = 254). Broken down by local ($n = 975$) and expatriate ($n = 294$), this modal threshold was stable; local mode was between 2 (frequency = 200) and 3 (frequency = 202); expatriate mode was between 2 (frequency = 50) and 3 (frequency = 52). This was below the actual mean ratio for expatriate and local workers above. When asked whether remuneration as a whole (pay and benefits) was sufficient to meet everyday needs, there was a significant association between expatriate and locals ($\chi^2 = 131.25$, $df = 1$, $p < .001$, two-sided). For the majority of expatriates $n = 216/286$) pay was sufficient; but for the majority of locals ($n = 610/970$) it was not.

We also checked whether locally and internationally salaried groups actually came into contact with each other at work, using two specific items: "My job brings me into contact with differently paid and benefited expatriates;" and "My job brings me into contact with differently paid and benefited locals." With these items as dependent variables and remuneration group as independent variable in a multiple analysis of variance, there was no difference between remuneration groups (overall $M = 3.82$, 3.87, $SD = 0.93$, 0.87, respectively).

Summing up, overall expatriate/local pay ratios exceeded reportedly tolerable thresholds in both local and expatriate groups, and for most local workers. The excess was coupled with unmet need, and repeated contact with coworkers whose pay and benefits were different.

Testing the hypotheses, Step 1: Determining levels of analysis

Table 4 gives intraclass correlation coefficients for country and organization. These indicated variance attributable to between-group differences and thereby the need to view data as multilevel.

TABLE 4
Intraclass correlation coefficients for organization and country ($N = 1290$)

	Intraclass correlation coefficients	
Variable (H_1–H_6)	*Organizational level*	*Country level*
Mobility	.05**	.02***
Turnover	.12***	.01
Demotivation	.13***	.08***
Justice	.10***	.07***
Comparison	.09***	.05**
Ability	.06**	.00
Central tendency	Medium	Small

Significance levels for intraclass coefficients based on *F*-test. $^{**}p < .01$; $^{***}p < .001$.

TABLE 5
Mean (and standard deviation) or variables in H_1–H_6 ($N = 1180$)

		Type of remuneration	
Variable (H_1–H_6)	*Total sample*	*Local ($n = 964$)*	*International ($n = 216$)*
Mobility	2.42 (1.06)	2.43 (1.10)	2.40 (0.90)
Turnover	2.56 (0.99)	2.63 (1.03)	2.35 (0.83)***
Demotivation	2.94 (0.85)	3.05 (0.86)	2.49 (0.69)***
Justice	2.71 (0.73)	2.60 (0.72)	3.09 (0.61)***
Comparison	3.34 (0.85)	3.41 (0.87)	3.17 (0.76)***
Ability	3.33 (0.72)	3.34 (0.72)	3.36 (0.70)

Scale ranges from 1 (strongly disagree) to 5 (strongly agree). *** $p < .001$.

Coefficients of .05 are considered small; .10 = medium; .15 = large. By convention if a coefficient is "small" (<.05, or 5%), the need for multilevel approaches diminishes since there is less clustering among group scores. From Table 4 effects for country, while statistically significant were weaker than for organization, indicating more clustering at organization levels than country. A post-hoc factor check on Table 1 items aggregated to organizational level replicated the level-1 factor solution (variance explained = 72.16%). Coefficients for sector (aid, education, government, business) yielded trivial coefficients (<0.05). Sector was thus removed from any further analysis.

Testing the hypotheses, Step 2: Similarities vs. differences between remuneration groups

To decide whether to use expatriate–local and/or local–international remuneration as an individual-level grouping variable, we ran a two-way multiple analysis of variance with expatriate–local and local–international remuneration as independent variable, and the six factors in Table 1 as the dependent variables. Using intraclass correlation coefficients in Table 4 to correct alpha level for Type I error due to organizational-level clustering in the data (Bonferroni, from .05 to .01, based on interpolation in Stevens, 1992), expatriate–local was not significant. Remuneration type, however, had a multivariate effect, $F(6, 851) = 4.15$, $p < .001_{\text{unadjusted}}$. There was no multivariate interaction. Subsequent analyses thus foreground type of remuneration (local/international) rather than country of origin (local/expatriate).

Table 5 presents mean scores per item per variable. Locally remunerated = 964/1290, 75% of total sample; internationally remunerated = 216, 17% of total sample. "Volunteers" = 93, 7%, was an ambiguous category already omitted from the breakdown; missing data = 17, 1%. Comparisons between locally and internationally remunerated means were corrected for intraclass correlation coefficients under organizational level (Kenny & La Voie, 1985). From Table 5, though tendency was clearer if remuneration was local ($M = 3.41$, $SD = 0.87$) vs. international ($M = 3.17$, $SD = 0.76$), both groups compared their remuneration to others'. Locally remunerated workers disagreed that there was remunerative justice ($M = 2.60$, $SD = 0.72$); internationally remunerated workers tended toward agreeing ($M = 3.09$, $SD = 0.61$) ($r_{\text{controlling for organization}} = .25$, $p < .001$, two-tailed). Locally remunerated workers tended to demotivation ($M = 3.05$, $SD = 0.86$); internationally remunerated towards motivation ($M = 2.49$, $SD = 0.69$) ($r_{\text{controlling for organization}} = .25$, $p < .001$). Turnover was less salient for internationally ($M = 2.35$, $SD = 0.83$) than for locally remunerated respondents ($M = 2.63$, $SD = 1.03$) ($r_{\text{controlled}} = .14$, $p < .001$). Mobility did not vary ($M_{\text{overall}} = 2.42$ $SD = 1.06$). Each group rated self as abler than others ($M = 3.33$, $SD = 0.72$).

Testing the hypotheses, Step 3: Links between variables

Table 6 further summarizes degrees of correlation between key variables at individual and group (organizational) levels. Correlations between variables that are adjacent to each other in the hypothesized quasi-simplex sequence H_1–H_6 are emboldened (at each level of analysis, individual and organization). Adopting Kenny and La Voie

TABLE 6
Correlation between variables in H_1–H_6

	Mobility	*Turnover*	*Demotivation*	*Justice*	*Comparison*	*Ability*
Mobility		**.71**	.31			
Turnover	**.57**		**.59**	−.37	.46	.24
Demotivation	.18	**.30**		**−.85**	.37	
Justice	−.11	−.24	**−.43**		**−.26**	
Comparison	.15	.20	.31	**−.22**		**.42**
Ability			.25		**.27**	

Organizational-level relationships above diagonal, $N_{organization} = 202$; individual-level below diagonal, $N_{individual} = 1156$, missing = 134; all $p < .001$. Individual and organizational-level effects have been partialed out (Kenny & Lavoie, 1985).

(1985), individual and organizational level correlations are either side of the diagonal.

At an individual level, below the diagonal: Sense of own ability was linked to remuneration comparison, supporting H_1. Comparison predicted sense of justice negatively, as in H_2. Sense of injustice was the best predictor of demotivation, consistent with H_3. Supporting H_4, demotivation was the best predictor of turnover cognition. Turnover itself was the best (most direct) predictor of cognition about mobility (as in H_5). An almost identical general pattern was present at the organizational level (above the diagonal in Table 6). In terms of a wider quasi-simplex chain (ability–comparison–justice–motivation–turnover–mobility) there are two inconsistent entries in Table 6: Below the diagonal (individuals), mobility was slightly better predicted by comparison than justice; above the diagonal (organizations), turnover was better predicted by comparison than by justice. The remaining 28/30 entries were broadly consistent with a quasi-simplex pattern (Guttman-type coefficient of reproducibility = .93).

A similar pattern was observed for the two core pay groups when tested separately (local vs. international remuneration). An exception was that among those receiving international remuneration, comparison did not link to sense of injustice/justice, as it did for individuals receiving local remuneration ($r_{corrected} = -.26$, $p < .001$). Comparison instead linked directly with sense of own ability ($r = .38$, $p < .001$) uncorrected for organizational effects since the n for most organizations was 1 (61/104, 58.65%). To the extent that the correlation was marginally higher than for the sample generally ($r = .27$ in Table 6), remuneration comparisons may have been slightly more self-elevating for workers remunerated internationally than locally.

A risk is that our measures reflected social desirability, either holding back on the issue or holding forth (exaggerating the issue). However candour was not generally strongly correlated with the core measures in Tables 4 and 5 (mean $r_{absolute} = .14$). Instead, there was a slight tendency for candour to be associated positively with higher scores on demotivation, turnover cognition and mobility cognition (mean $r_{absolute} = .21$). Respondents may have held - slightly - back not forth. Hence candour is hereafter statistically controlled.

Testing the hypotheses, Step 4: Links between levels (multilevel modeling)

This section explores links *between* individual (Level 1) and organization (Level 2). It tests predictors of motivation, turnover, and mobility, through the development of a hierarchical linear model (Snijders & Bosker, 1999). These models distinguish individual from higher, group-level effects. We decided against including Level 3 (country) due to insufficient power ($n = 6$), and because the intraclass correlation coefficients indicated that more clustering occurred in organizations than in countries (Table 4). Level 3 is explored directly in separate region/country papers and commentaries elsewhere in this special section. Because we sought a general model and do not have statistical power, we did not include remuneration type as a group-level variable. Using protocols in Stride (2008), including assumption checks, we focused on predicting individual-level (a) demotivation, (b) turnover cognitions, and (c) cognitions about mobility, allowing for nesting in organizations.

(a) Demotivation

Motivation levels as we have seen were affected by both country (intraclass correlation coefficients = .08) and, more strongly, organization (.13). In Table 7, Model 1 was the baseline model, with better models explaining progressively

TABLE 7
A two-level multilevel model for demotivation

	Coefficient (SE)							
Fixed effect	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6 (Justice)*	*Model 7 (Comparison)*	*Model 8 (Ability)*
Intercept	2.94*** (.04)	1.12*** (.27)	2.44*** (.26)	1.99*** (.28)	1.67*** (.28)	1.83*** (.28)	1.87*** (.29)	1.70*** (.28)
Covariates								
Culture shock		0.078 (.04)	0.12** (.04)	0.13*** (.04)	0.09* (.04)	0.10** (.04)	0.09* (.04)	0.09* (.04)
Horizontal collectivism/agreeableness		0.23*** (.06)	0.26*** (.05)	0.21*** (.05)	0.15** (.05)	0.13* (.05)	0.12* (.05)	0.15** (.05)
Candour		0.26*** (.04)	0.22*** (.04)	0.20*** (.04)	0.23*** (.04)	0.23*** (.04)	0.22*** (.04)	0.23*** (.04)
Individual-level predictors								
Justice			−0.52*** (.03)	−0.47*** (.03)	−0.47*** (.03)	−0.50*** (.04)	−0.47*** (.03)	−0.47*** (.03)
Comparison				0.16*** (.03)	0.11*** (.03)	0.12*** (.03)	0.11* (.04)	0.11*** (.03)
Ability					0.21*** (.03)	0.21*** (.03)	0.20*** (.03)	0.20*** (.04)
	Variance (SE)							
Organization-level variance	.10** (.02)	.08** (.02)	.02* (.01)	.02 (.01)	.02 (.01)			
Intercept variance						.49* (.20)	.76** (.28)	.24 (.20)
Slope variance						.06* (.02)	.08** (.03)	.03 (.02)
Covariance between slope and intercept						−.16* (.07)	−.24* (.08)	−.09 (.07)
Individual-level variance	.62*** (.03)	.59*** (.03)	.49*** (.02)	.48*** (.02)	.45*** (.02)	.42*** (.02)	.40*** (.02)	.43*** (.02)
−2 Restricted log likelihood	2802.14	2581.21	2267.23	2067.37	1986.01	1975.37	1955.71	1975.69

In Models 6, 7, and 8 no new predictors were added to the models, but the slopes for justice, comparison, and ability were allowed to be random (one at a time, and respectively). Level 1 is individual-level and Level 2 is organizational-level. *$p < .05$; **$p < .01$; ***$p < .001$.

more random effect variance and having an improved fit, which was measured by a reduction in the fit statistic "–2 Restricted log likelihood" (−2LL). We explored a two-level model, across individuals and organizations, entering control variables first (Model 2). Higher candour, $F(1, 1061.45) = 40.08$, $p < .001$, agreeableness/horizontal collectivism, $F(1, 1070.83) = 17.98$, $p < .001$, and marginally culture shock, $F(1, 1061.63) = 3.46$, $p < .10$, were linked to higher levels of demotivation. We added the predictors from H_1–H_6 into the model one at a time, first justice (Model 3), then comparison (Model 4), and then ability (Model 5). From Model 5, the top predictor of demotivation was injustice, $F(1, 922.39) = 219.83$, $p < .001$. Also predictive of demotivation levels were self-assessed ability, $F(1, 936.82) = 42.09$, $p < .001$, and comparison, $F(1,930.91 = 14.49)$, $p < .001$. With the addition of each predictor, the amount of variance explained at the individual level increased, and the –2LL decreased. Hence the model improved progressively.

In Models 6, 7, and 8 we allowed the slope to vary by organization, for each of the three predictors (justice, comparison, and ability, respectively, leaving the others fixed), on the basis that organizational climate may moderate any impact of the predictors on motivation levels, and was an organizational-level variable. We can see that organization moderated the relationship between comparison and demotivation, as well as between injustice/justice and demotivation (though significance dropped to $p < .05$ for the latter), and that in each case the predictors covaried with demotivation (demotivation was predicted by comparison and, marginally, $p < .05$, by injustice). These findings together suggest that organizations in which employees reported comparing their remuneration more, generally also contained employees who reported more demotivation. At the same time, organizations indicating higher ratings of injustice generally contained employees who rated their remuneration-based demotivation higher. Organizations thus moderated linkages between (i) comparison and demotivation and possibly (ii) injustice and demotivation, suggesting a link between organizational climate and remuneration-linked demotivation in general.

(b) Turnover cognitions

From Table 4, organizations explained 12% of the variance around turnover thoughts, and country explained no significant variance. This was understandable given that our turnover items focused on organizational, not country, mobility. A two-level model is therefore explored in Table 8. Culture shock and candour predicted turnover cognitions: respectively, $F(1, 1052.67) = 30.04$, $p < .001$; $F(1, 1047.72) = 15.56$, $p < .001$. Agreeableness/horizontal collectivism was retained as a control variable.

In Models 3–7, we again added predictors one at a time (demotivation, injustice/justice, comparison, ability and then satisfaction/work engagement). From Model 7, the best predictor was job satisfaction/work engagement, $F(1, 845.45) = 172.09$, $p < .001$. Adding further predictive power were remunerative comparison, $F(1, 846.38) = 25.89$, $p < .001$, demotivation, $F(1, 842.65) = 22.78$, $p < .001$, injustice/justice, $F(1, 831.94) = 6.91$, $p < .01$, and, ability, $F(1, 844.69) = 4.71$, though significant at the $p < .05$ level only. In Models 8–12 we allowed the slope to vary randomly for the predictors (job satisfaction/work engagement, injustice/justice, ability, comparison, and demotivation, respectively). Our rationale was that these variables may have contributed to organizational climate, an organizational variable potentially impacting the five predictors on turnover. Relaxing the significance level is recommended in exploratory research to avoid prematurely closing down a research avenue (Grimm, 1993). Thus, using the $p < .05$ level, from Model 12, organization moderated the link between demotivation and turnover, and to a lesser degree between injustice/justice and turnover (Model 9), and comparison and turnover (Model 11). Sense of injustice/justice and demotivation both covaried with turnover, as expected. Organizations thus moderated links between (1) demotivation and cognitions on turnover, and (2) injustice/justice and turnover cognitions.

(c) International mobility

From Table 4, mobility had small intraclass correlation coefficients for both country (.02) and organization (.05), indicating that standard multiple linear regressions were appropriate. We did not include turnover because of a possibility that it fully mediated between predictor variables and mobility. Explaining approximately 12% of the variance in mobility was a combination of candour ($\beta = .20$, $t = 5.33$, $p < .001$), demotivation ($\beta = .13$, $t = 3.27$, $p < .001$), job satisfaction/work engagement ($\beta = -.12$, $t = -3.40$, $p < .001$), and remuneration-comparison ($\beta = .09$, $t = 2.41$, $p = .016$). Thus although the percentage variance was not high, remuneration-focused variables in H_1–H_6 predicted thoughts about mobility.

TABLE 8
A two-level multilevel model for turnover

	Coefficient (SE)											
Fixed effect	*Model 1*	*Model 2*	*Model 3*	*Model 4*	*Model 5*	*Model 6*	*Model 7*	*Model 8 (Justice)*	*Model 9 (Satisfaction)*	*Model 10 (Ability)*	*Model 11 (Comparison)*	*Model 12 (Demotivation)*
Intercept	2.58*** (.04)	1.38*** (.32)	1.03*** (.32)	1.81*** (.36)	1.32*** (.37)	1.24*** (.38)	3.12*** (.39)	3.05*** (.39)	3.10*** (.40)	3.23*** (.40)	3.19*** (.39)	3.26*** (.39)
Covariates												
Culture shock		0.27*** (.05)	0.24*** (.05)	0.25*** (.05)	0.25*** (.05)	0.25*** (.05)	0.15*** (.05)	0.15*** (.05)	0.16*** (.05)	0.15** (.05)	0.16*** (.05)	0.14** (.05)
Horizontal collectivism / agreeableness		0.02 (.07)	−0.08 (.07)	−0.09 (.07)	−0.10 (.07)	−0.11 (.07)	0.12 (.07)	0.12 (.07)	0.12 (.07)	0.11 (.07)	0.09 (.07)	0.10 (.07)
Candour		0.19*** (.05)	0.11* (.05)	0.12* (.05)	0.12* (.05)	0.14** (.05)	0.11* (.05)	0.11* (.05)	0.11* (.05)	0.10* (.05)	0.09* (.05)	0.09* (.05)
Individual level predictors												
Motivation/demotivation			0.35*** (.04)	0.27*** (.04)	0.24*** (.04)	0.22*** (.04)	0.19*** (.04)	0.19*** (.04)	0.17*** (.04)	0.18*** (.04)	0.17*** (.04)	0.18*** (.05)
Justice				−0.20*** (.04)	−0.19*** (.05)	−0.19*** (.05)	−0.12** (.04)	−0.12** (.04)	−0.13* (.05)	−0.12** (.04)	−0.11* (.04)	−0.13** (.04)
Comparison					0.17*** (.04)	0.17*** (.04)	0.18*** (.04)	0.19*** (.04)	0.18*** (.04)	0.17*** (.04)	0.20*** (.04)	0.19*** (.04)
Ability						0.04 (.04)	0.09* (.04)	0.09* (.04)	0.10* (.04)	0.10* (.05)	0.09* (.04)	0.10* (.04)
Job satisfaction/work engagement							−0.70*** (.05)	−0.69*** (.05)	−0.69*** (.05)	−0.70*** (.05)	−0.69*** (.05)	−0.70*** (.05)
	Variance (SE)											
Random effect												
Organization-level variance	.13*** (.04)	.13*** (.04)	.08* (.03)	.08* (.03)	.08* (.03)	.07* (.03)	.07* (.03)					
Intercept variance								.04 (.38)	.92** (.34)	.55 (.40)	.49 (.30)	.52* (.25)
Slope variance								.01 (.03)	.07 (.04)	.06 (.03)	.06* (.03)	.07* (.03)
Covariance between slope and intercept								−.01 (.09)	−.26* (.11)	−.17 (.12)	−.16 (.09)	−.18* (.08)
Individual-level variance	.88*** (.04)	.80*** (.04)	.74*** (.04)	.72*** (.04)	.69*** (.04)	.70*** (.04)	.57*** (.03)	.57*** (.03)	.54*** (.03)	.55*** (.03)	.54*** (.03)	.53*** (.03)
−2 Restricted log likelihood	3201.17	2911.13	2669.88	2559.50	2337.83	2309.97	2059.57	2059.10	2043.140	2052.09	2045.94	2042.74

In Models 8–12 no new predictors were added, but the slopes for satisfaction, justice, ability, comparison, and demotivation were allowed to be random (one at a time, and respectively). *$p < .05$; **$p < .01$; ***$p < .001$.

DISCUSSION

It may seem surprising that more systematic research on the impact of international vs. local salaries—a basic economic consideration—has not been conducted. Yet a dearth is perhaps understandable given the topic's taboo. As Duflo (2009) has said of social science research into poverty reduction: "some of what we may prove may seem obvious, but we have to overcome prejudices." Our attitude items went beyond simple pecuniary considerations, however, by focusing on pay and benefits combined. We have also controlled for purchasing power, by using the relevant World Bank index of PPP.

Despite some tolerance of gaps, the actual differentials between international and local pay tended to exceed tolerable thresholds, psychologically and economically. Dual salaries may be *perpetuating poverty and injustice, not reducing them*. A sense of injustice about the gaps was reported by locally remunerated workers. Injustice was not as salient a concern for the higher-remunerated workers in this study as it was in Carr et al. (1998). However, we note that the ratios obtained in this study are smaller than those found earlier (1998), presumably rendering them easier to reconcile. Guilt might also be more psychologically salient in specific sectors like aid and education, though sector was not statistically salient in this study. Discussion of differences in pay, measured using PPP, must also be qualified by reduced response rates and imperfections in the index itself (Reddy & Pogge, 2005). A useful extension to the research was suggested by one reviewer: Develop and model an index/ratio comparing PPP differentials with varying levels of acceptability.

- *H_1: Equivalently skilled coworkers will compare their remuneration with each other*. In Table 5, the central tendency reported by both groups of workers was to compare remuneration. Clear multilevel correlations between comparison and sense of own ability suggest a psychological link between the two processes, for individuals and organizational groups alike. This hypothesis was thus generally supported.
- *H_2: Remunerative comparison between similarly skilled colleagues will predict a sense of injustice*. Remuneration comparison was linked to injustice for respondents receiving local remuneration but not international remuneration. Injustice for some of those remunerated internationally may have antecedents elsewhere, for instance in comparisons with peers at home. The choice of referent group for pay comparison should be followed up in future research. This hypothesis was therefore supported in part only.
- *H_3: Perceptions of injustice will be linked to demotivation, especially among less well remunerated workers*. From Table 6, injustice and demotivation were closely linked. Controlling for candour, culture shock, culture-related personal values, and some individual differences, multilevel modeling indicated that the best predictor of demotivation was injustice, with the linkage interestingly moderated by organization. Remuneration comparison did not predict any sense of injustice for respondents remunerated internationally, suggesting that justice perceptions are not tied (for them) to international–local remuneration differentials. This hypothesis was therefore broadly supported.
- *H_4: Demotivation will be linked to cognitions about organizational turnover*. From Table 6, the best predictor of turnover was its adjacent variable in the predicted sequence, demotivation. Multilevel modeling again suggested that organizations have a moderating effect, here on turnover cognitions. Future research should explore what features of organizational policy and/or climate have most influence on turnover. This hypothesis was supported.
- *H_5: Turnover will be linked to cognitions about international mobility*. From Table 6, turnover and international mobility were closely linked. This extends research elsewhere that found turnover intentions linked to mobility between jobs (Liljegren & Ekberg, 2008). There were no organizational effects for international mobility, which suggests that thoughts of mobility are independent of organization, and may be best addressed by more macro and structural—e.g., national-level policy—interventions.
- *H_6: Comparing remuneration will link to greater assessments of own ability*. Comparison of remuneration was consistently linked to a higher sense of one's own ability, relative to others in the same type of job. The link was marginally clearer than average among those remunerated internationally. Receiving international remuneration may give a partly artificial boost to self-worth. Comparison, as we saw in Table 6, did not correlate with any senses of injustice among those remunerated internationally—unlike their colleagues remunerated locally. Differences in self-assessed ability might also have been influenced by cultural attribution biases, including

self-servingness vs. humility (Furnham, 2003). Self-servingness can lead to over-inflation of own ability while local norms of humility keep self-attributions modest—unless some comparable others are manifestly underperforming (Carr, 2003, p. 208/9). Our finding that locally remunerated workers rated internationally remunerated workers down, not up, is noteworthy.

An important finding in this study was the influence of organizations as significant moderators of the reported effects. Indeed, country effects on such relationships were less apparent, despite quite substantial differences in country remuneration policy, history, and culture, and of course remuneration itself (for details, see the country papers in this issue) and evidence that cultural factors are salient in many aid settings (MacLachlan, 2006). Development policy in recommending the involvement of "wider groups beyond governments and official donors" may be sympathetic to our findings as well as to the need to "shift the incentives that shape behaviour" within these parameters (Working Party on Aid Effectiveness, 2008, p. 10). Our data support a greater alignment of incentives *in the workplace* (Carr, 2009). They also chime with a global *Agenda for Decent Work* (International Labour Organization, 2008).

Decent work includes social and relational justice (Saner & Michalun, 2009; Stephenson & Schnitzer, 2009). However more aligned policies may have unforeseen costs to recruitment and selection. For example, reducing expatriate salary and benefits to be in line with local rates might result in difficulty recruiting the best talent, since global workers very often have to support households back in their home countries. Nevertheless, some promising research has recently argued that many nonprofit organizations that are very effective also pay expatriate workers the national or local wage (Werker & Ahmed, 2008). Those organizations benefit from a "love factor," whereby talented individuals are taking lower-paid humanitarian work for nonpecuniary, intrinsically rewarding reasons (Carr & Bandawe, in press).

Future research should include measures of behaviour concerning collaboration (Siegel & Hambrick, 2005). "Contextual performance" means "behaviours that create and maintain the social framework within which people accomplish their core job tasks" (Murphy, 2007, p. 15). Understanding such contexts is critical if we wish to promote effective research utilization in aid work (MacLachlan, 2009). Examples span volunteering, persisting, cooperating, following rules, and defending organizational objectives (Boorman & Motowildo, 1997). In other forms of contextual performance, work behaviours sometimes labelled "counterproductive," e.g., "moonlighting," can be rational responses to social injustice and need (Ferrinho & Van Lergberghe, 2002).

There is evidence that organizational changes can produce reductions in poverty within as little as 4 years (Clemens, Radelet, & Bhavnani, 2004). We did not include time as a variable, and an improvement would be longitudinal measures of poverty reduction across organizations where remuneration varies (Carr, 2009). In a related vein, we did not test *interactive* properties between different groups (Senge, 1992). Nevertheless cross-sectional methods can empirically show that dual systems are discriminatory (Melamed, 1995; Millsap & Taylor, 1996). In this case the ceiling may be more like concrete than glass (Carr, in press). Discrimination in any form, however, is a barrier to enabling human capability (Sen, 1999).

CONCLUSION

Are development-related remuneration discrepancies undermining performance? An adage in work psychology states that job performance = ability × motivation (Latham, 2007). Our study highlights both elements as an interactive compound. On one hand, the sample was rich in ability: "human capital" and "basic capability" (Sen, 1999). On the other hand, the motivational consequences of discrepant remuneration were comparatively neglected. An essential condition for capacity to be enabled at work, and for poverty to be reduced at work, is a remuneration system that is both just (Singer, 2008) and seen to be just.

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