

Measuring Psychological Vulnerability: the Specific Case of Informal Dwellers in the Shanty Towns of Manila.

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Abstract

Measures of poverty have so far followed a socio-economic approach and have not included any psychological component. However, several studies have shown that psychological vulnerability is crucial in stopping intergenerational poverty, and that assessing this would give a more accurate picture of the poverty landscape. Hence, the present research is a validation study aiming at developing a tool kit capable of measuring the different dimensions of psychological vulnerability in the specific context of extreme urban poverty. In order to achieve this, a partnership with a Filipino non-governmental organisation specialising in psychosocial interventions was set up. Six different dimensions were identified as essential components of psychological vulnerability in the poor urban areas of Manila: mental health, addictions, social support, use of external services, family stability through couple satisfaction and resilience. Data were collected from parents living in the shanty towns of Manila, Philippines (N=50). A set of six questionnaires and scales was put together to produce the tool: the MHI-5, the RAS, the MPSSS, the BRCS and questionnaires especially designed to measure addictions and the use of external services. The validity of each scale was determined through exploratory factor analysis and through measures of reliability (Cronbach Alpha and split-half) and concurrent validity (with another measure used by the Filipino partner). Results show that RAS, MPSSS and MHI-5 are valid in the context of urban poverty in Manila, whereas the BRCS, the addictive behaviour questionnaire and the use of external services questionnaire need to be modified in order to be added to the final tool kit. Implications related to measurement and monitoring of poverty are discussed as well as implications for poverty alleviation programmes at an international level.

Introduction

Conventional measures of poverty have so far been developed within economic perspectives (Rojas, 2008). Measurements are mostly based on an income-based conception of poverty that includes, among others, the identification of a poverty line relative to each context, the computation of probability and risks, and the choice of specific welfare indicators (Calvo & Dercon, 2005). These economic measures are nowadays dominantly used when designing policies, and are not currently compounded with any psychological component (Rojas, 2008; Morone et al., 2011). However, it has been observed that families who score

similarly on an economic poverty measure do not necessarily act in the same way, which brings variations in the situation they end up in (Calvo & Dercon, 2005). The concept of vulnerability was consequently developed in order to explain those variations. This is defined as the probability that a shock or a challenge will impact negatively on someone's psychological state (World Bank, 2001). Still, this psychological vulnerability experienced in a context of poverty is not very well determined, is often linked to environmental vulnerability such as financial crises or natural disasters (Adger, 2006), and no measure has yet been elaborated for it (Calvo & Dercon, 2005).

Hence, efforts exploring the relationship between poverty and mental health have recently been deployed and have shown that people living in poverty experience higher psychological distress and more common mental disorders than others (Reijneveld & Schene, 1998; Patel, Pereira, & Mann, 1998; Araya, Lewis, Rojas & Fritsch, 2003; Friedman & Thomas, 2007). Interestingly, it has been found on one side that poverty deteriorates well-being (Acharya, 2001; Kuruvilla & Jacob, 2007; Patel & Kleinman, 2003, Payne, 2000), whereas on the other side, it has been shown that reduced psychological resources increase the risk of falling into poverty (Palomar, Lanzagorta & Hernandez, 2005). This evidence indicates a bi-directional relationship between poverty and mental health, a vicious cycle in which poverty causes low well-being, and low well-being, by limiting people in their ability to bounce back, reinforces poverty (Kuruvilla & Jacob, 2007; Rojas, 2011). This phenomenon highlights the decisive role of psychological vulnerability in poverty, and stresses the fact that measurements of poverty, in order to be a true reflection of someone's global vulnerability, cannot only take economic perspectives into account, but need to include a psychological component.

This echoes what numerous charities working in the field of poverty alleviation have detected in their programmes throughout the world. In order to measure their impact on their clients, those organisations have had to devise tools combining economic and psychosocial indicators (David & Carpentier, 2009). Those tools were especially needed in the context of urban poverty in intermediate countries where many services such as hospital, schools, etc. are available but surprisingly remain unused by a certain part of the population (David & Carpentier, 2009). While implementing programmes in the shanty towns, some organisations such as *Inter Aide* and *Enfants & Développement* operating in India, the Philippines, Madagascar, Cambodia, Burkina Faso etc. have had to distinguish between two categories of people needing two different types of intervention (David & Carpentier, 2009). The first category live under the poverty threshold (less than 1\$ per day (UNDP, 2013) and face very

difficult challenges, but when provided with the relevant information on how to avail of services, are able to make the most of those services and to significantly improve their situation. On the other hand, the second category, despite living under the same poverty threshold and in the same neighbourhood as people in the first category, were found not to be able to use the same services following the same type of intervention. The latter category, often called the “utmost poor” by charities, represents 10 to 15% of the shanty towns’ population and is characterized by a high prevalence of psychosocial difficulties such as violence, depression and abuse (David & Carpentier, 2009). For them, it has been found that providing psychological support is an inevitable step to enable them to use services and to progressively improve their socioeconomic situation. Going back to the bi-directional relationship between poverty and well-being explored by Kuruvilla & Jacob (2007) and Rojas (2011), it can be assumed that the utmost poor, in addition to the socioeconomic difficulties they encounter, are burdened by a high psychological distress and are trapped in a vicious cycle.

In the specific case of the shanty towns of Manila, this distinction is salient and it is interesting to see how poverty alleviation programmes have had to adjust. In the Philippines, even though economic growth has been steadily increasing over the past fifteen years, poverty has not reduced but expanded. The country has the greatest level of unequal wealth distribution in Asia, and a third of its population lives under the poverty threshold mentioned above (UNDP, 2013). It is estimated that more than 45% of the population live in shanty towns, in particular in Manila where work opportunities attract many from rural provinces (UNDP, 2013). As it is the case throughout the world, Manila’s shanty towns are highly populated no-go areas with no access to basic services such as fresh running water, sanitation facilities and sewerage. In Manila, the numerous general poverty alleviation programmes including training, microcredit services and health support have been able to provide support on many issues, however, as suggested earlier, 10 to 15% of the population, the utmost poor, are not significantly reached by these programmes (Schlumberg, 2006). The intervention developed for them by Inter Aide, a 40-year old international development organisation, is psychological in nature. It consists of home-based one-to-one weekly counselling sessions in which the client, usually a mother, is listened to in a non-judgmental way. The sessions are continued for up to nine months. Expected outputs are linked to the person’s well-being: e.g. improved self-confidence and self-esteem, ability to identify the family needs and to meet the young children’s developmental needs, reduced distress, etc. Remarkably, the therapeutic

component of the intervention has been identified as a decisive factor for positive change. Also, Inter Aide has determined that the intervention for the utmost poor needed to follow a strict “no dole-out” approach in order to be effective. If linked to any economic support such as giving away school supply, providing free health care and/or microcredit loans, the counselling sessions are not as effective because clients assume that material support is dependent on their progress in counselling, which influences their attitude during the counselling sessions (David & Carpentier, 2009). This stresses the importance of making a distinction between an economic and a psychological intervention.

This Manileño context is an excellent laboratory for research aiming at understanding the links between well-being and poverty and at developing a measuring tool kit for psychological vulnerability. In addition to using an economic poverty assessment tool, Inter Aide has already developed a few measures to capture the psychological vulnerability of their clients. It includes field workers’ observations, reports on the number of services used, case studies, team meetings, etc. However, those tools mainly depend on human observations and are thus subjective. The need for more standardised, objective and reliable tools is notable (David & Carpentier, 2009; Kaplan, 2008). In this framework, psychometric techniques providing robust statistical assessments represent a very good alternative. Indicators of validity and reliability as well as factor analysis capable of verifying the underlying dimensions of a large range of psychological constructs (Kaplan, 2008) would allow the development of a solid measure of psychological vulnerability. Questionnaires assessing different dimensions within the wider concept of psychological vulnerability can be tested in the specific context of people experiencing extreme poverty in the shanty towns of Manila. In order to be robust, the tool kit needs to cover a large range of constructs, as psychological vulnerability involves many different dimensions (David & Carpentier, 2009). Nonetheless, because of the vulnerability of the targeted population, the tool kit needs to contain a limited number of items (Schlumberg, 2006). Also, it has been notified that more than just giving a measure of someone’s individual psychological vulnerability, the tool kit needs to include information on the family’s vulnerability, as individuals and their close family are very much intertwined in the Filipino culture, and as family exerts a strong influence on individuals (Orteza, 1997).

To give a comprehensive view of psychological vulnerability, the first and evident dimension that this tool kit needs to cover is mental health. Screening for common mental disorders such as anxiety, depression and general distress is an inevitable step. As it has been

pointed out earlier, people experiencing extreme poverty are at high risk of experiencing mental health problems (Patel, Pereira, & Mann, 1998), and adding mental distress to the challenges brought by living in poverty can place them in a vicious poverty cycle seriously hampering their abilities to improve their overall situation (Rojas, 2011). Moreover, extensive research conducted in poor areas in Bosnia, Indonesia, Mexico, India and Tonga has shown that mothers living in poor areas are more likely to report mental health issues (Das et al., 2007). This is preoccupying, as depressive symptoms among mothers strongly influence children's development in terms of language and social and emotional development. It has been shown that developmental delays push the next generations further into poverty and seriously reduce the children's abilities to overcome their challenges (Beeber, Perreira & Schwartz, 2008). Hence, the inclusion of mental disorders is decisive in tackling the intergenerational transmission of poverty, and measuring these disorders is crucial.

In order to measure the intensity of mental disorders, a measure of addictive behaviour appears necessary. In fact, addictions are symptoms of severe distress and of an individual's inability to regulate his/her emotions and to cope with stress (Shore, 2001). Addictions find their roots in traumatic events. In particular, it has been suggested that childhood experiences, especially the relationship between a child and the person looking after him plays a key part in the development of addictions. An abusive and insecure relationship deregulates someone's internal affective state and internal coping mechanisms; addictions can then be perceived as external ways to regulate emotions and to temporarily be relieved from distress (Shore, 2003). As such, they are strong indicators of the intensity of mental distress, and therefore add another dimension to the mental health disorders screening already included in the tool kit. Furthermore, the fact that addictive behaviour seriously jeopardises budget management, and in turn the overall economic situation at a family level, argues for the inclusion of addictions as a dimension in the tool, especially for the families of Manila's shanty towns.

Screening for mental disorders and their intensity is a first and essential step; however, it is not sufficient to provide a complete view of someone's psychological vulnerability and the tool kit must include additional dimensions to be thorough. Social support has been identified as a very strong buffer to stress and to poverty. There is extensive evidence showing that satisfying support from family and friends significantly helps coping with stress (Cohen & Will, 1985; Emilsson et al., 2012). Social support includes tangible support, providing a sense of belonging, appraisal, group support, etc., all of which have been found to consistently improve stress coping (Schreurs & Ridder, 1997; Karb et al., 2012). Even in extreme situations, social support reduces distress. For instance, it was identified as one of the

main factors for the reduction of depression in HIV patients in rural Uganda (Tsai et al., 2012). Women affected by HIV who benefited from larger social support networks reported better well-being and quality of life (Gielen et al., 2001). Another study conducted in Bangladesh showed that sex workers who had higher social support had fewer risk behaviours (Sarafian, 2012). Moreover, social support has been found to moderate child maltreatment and its long term consequences and hence to reduce intergenerational poverty (Sperry & Widom, 2013). Low social support is correlated with low self-esteem and significant shyness, which both lead to poor use of services (Zhao, Kong & Wang, 2013). This has been confirmed by studies conducted in both western (Hansen & Aranda, 2012; Kong, Zhao & You, 2012) and non-western countries (Kumar et al., 2012).

In the shanty towns, social support is understandably extremely difficult to obtain. Shanty towns concentrate marginalized people whose rights are undermined; they are often hidden behind walls and are the result of a great exclusion from the rest of the city (Schlumberg, 2006). In addition to this, shanty towns are often destroyed by fires, natural disasters or new governmental land use plans, which makes any social network and service in place temporary (Schlumberg, 2006). As a result, accessing services is difficult in the shanty towns, and it requires individual strength for people to manage to do it successfully. It is therefore important to link a measure of the use of external services to the social support measure, as it will give an instant picture of the general support available to the families being assessed and of their capacity in availing of them.

Very much linked to social support lies the family stability dimension. Because poor urban areas are the result of rapid migrations occurring from rural areas based on traditional values and strong extended families to new urban, disorganised areas, social networks and support are weak. This generally leads to the nuclearization of families and weakens families' structures (Allendorf, 2013), which in this context is particularly challenging. In fact, family structure stands as an essential buffer against poverty and particularly against the transmission of poverty from one generation to another (Musick & Mare, 2005). This has been supported by a significant amount of research (Musick & Mare, 2004). In this family stability, the couple is key. Manuel et al. (2012) showed that in low-income countries, partner support is key in building protective factors against stress and poverty. Connubial dissatisfaction is correlated with high psychological vulnerability (Liu & Kaplan, 1994) and with an increase of poverty (Burkhauser, Holden & Myers, 1996). Undeniably, poverty exerts a high level of stress on couples (Bean, Ruth & Van Hook, 1996), which consequently impacts on the children (Fomby & Sennott, 2012). Parenting was found to be the greatest factor for

negative/positive behaviour in children from low-income populations (Church, Jagers & Taylor, 2012). This is reinforced by another study that showed that among urban African-American adolescents, the parents' relationship was a strong mediator of poverty (Hammack et al., 2004). Henceforth, as the couple appears to be at the centre of the family structure and of the capacity to fight against poverty, it is relevant to include this dimension in the tool kit.

So far, the tool kit includes measures of psychological distress with a screening of common mental disorders and of addictions, as well as measures of social support such as external support (friends and services) and internal support (couple). The advantage of the approach taken so far is that rather than simply offering a measure of psychological distress, the tool kit also assesses the resources available to someone for dealing with distress. This, hopefully, offers a more balanced view of someone's psychological vulnerability. However, individual differences when dealing with distress have not yet been covered. Even with the same mental disorder and the same social support available, people can act differently depending on their personality and experience. It therefore seems necessary to add a last dimension to the tool kit: resilience.

Resilience is the individuals' ability to bounce back in the face of adversity (Gilligan, 2009). It is often seen in a dynamic person-environment interaction approach that consists of the successful negotiation of a challenge or a risk (Walsh, 2006). Resilience is different from survival in the sense that someone can have survived something but not managed to grow out of it (Wolin & Wolin, 1993). It is also different from invulnerability as someone can be resilient when confronted to a specific situation, but not to all difficult situations (Bonnanno, 2004). A considerable amount of research has shown that resilience is a very strong buffer to stress (Kelly, 2007; Luthar, Cicchetti & Becker, 2000) and to poverty (Boyden & Cooper, 2007). In particular, in the longitudinal research conducted by Werner (1993), seven hundred poor children living on the island of Kauai were examined for forty years. At the age of two, a third of those seven hundred children were classified at risk. Five risk factors were then identified: serious health problems, familial alcoholism, violence, divorce and mental illness. At eighteen, two thirds of the children identified as being at risk were found to be highly vulnerable and were experiencing poverty and difficulties such as early pregnancy, needs for mental health services and troubles with school and with the law. However, the rest of the children had developed as well-balanced adults. Those children were experiencing the same poverty conditions, had benefited from a similar social support and had the same access to services. It is believed that the difference between them and the other children lies in their level of resilience, as they showed higher self-esteem, self-efficacy, optimism, persistence,

inner locus of control, etc. Werner's study shows how strongly resilience can explain variations in psychological vulnerability and thus how crucial it is to include it as a dimension of the tool kit.

Henceforth, the present study focuses on the development of a measure for psychological vulnerability in the particular case of people living in the shanty towns of Manila. The tool kit includes six different dimensions: mental health, addictions, social support, use of external services, family stability through couple satisfaction and resilience. Several psychometric tests such as factor analysis and measures of reliability and validity are performed on data collected in Manila.

Methods

Design

A validation study of a tool kit capable of measuring the different dimensions of psychological vulnerability in the specific context of extreme urban poverty was conducted. A set of six questionnaires and scales was put together to produce this tool and measure those six dimensions: mental health, addictions, social support, use of external services, family stability through couple satisfaction and resilience. The tool kit was tested with parents living in the slums of Manila. The validity of each scale was determined through exploratory factor analysis and through measures of reliability (Cronbach Alpha and split-half) and validity (concurrent validity with other measure of vulnerability).

Participants

A sample of fifty participants was selected among the shanty towns of Tondo, one of the poorest districts of Manila. Participants were all mothers, with the notable exception of one father, and were recruited by a Filipino partner organisation following specific criteria. First, the parent needed to have been previously enrolled in the organisation's Family Development Programme (FDP), which ensured that they belonged to the most deprived families of Tondo (the enrolment into FDP is preceded by a poverty assessment). Second, the parents needed to have stopped benefiting from the programme. Consequently, the families selected were families that had been phased out of the FDP programme in 2012. Among the fifty participants, forty-nine were female and one was male. The age of the participants ranged from twenty to forty-three and the mean age was 30.64 (SD=6.77).

Material

A set of four scales and two questionnaires was used for the study. Questionnaires were chosen for their shortness and their cross-cultural validity. Altogether, a set of thirty-two items was used.

Participant information: To start with, participants were asked to give demographic information about themselves, and to sign a consent form.

Mental Health and Distress: The Mental Health Inventory, composed of 5 items, was used to measure the psychological well-being and distress of the participants (Veit & Ware, 1983). Each item had to be rated from 1 “all of the time” to 6 “none of the time”. Scores ranged from 5 to 30. The higher the score was, the more psychological well-being the participant was experiencing. Research on this scale has reported good internal consistency with Cronbach alpha ranging from .82 to .93 (Veit & Ware, 1983), and good construct validity with high correlations found with the General Health Questionnaire (GHQ-12) (McCabe et al., 2008). Despite its reduced size when compared with the two other versions of the Mental Health Screening test that include 18 and 30 items, the 5-item version has been found to be efficient in screening major mental health problems (Berwick et al., 1991). The MHI-5 has an excellent cross-cultural validity. The scale has been tested with a sample of 4,500 Japanese people, in comparison with the Short Form Health Survey (SF-36) and the Zung Self-Rating Depression Scale (ZSDS), and coefficient correlations showed good construct validity (Yamazaki, Fukuhara & Green, 2005). Similar findings were observed with a Portuguese adolescent population (Marques, Pais-Ribeiro & Lopez, 2011), a Norwegian population (Strand, Dalgard, Tambs & Rognerud, 2003) and a Dutch population (Hoeymans et al., 2004). The MHI-5 has even been suggested as the gold standard for screening mental health issues (Rumpf et al., 2001).

Addictive behaviours:

In the shanty towns of Manila, three main types of addictions have been identified and included in the tool kit: alcoholism, drug use and gambling (David & Carpentier, 2001). In order to screen for them, three questions were devised for the study especially, using the World Health Organisation classification (WHO, 2013). It classifies addictions by degrees comprising a first level “no use or abstinence”, a second “occasional”, a third “hazardous”, a fourth “harmful”, the last level being “dependence”. So, for instance, for alcohol, the question “Across your family, is there anybody who drinks alcohol? If so, how often?” was asked and the participant then had to choose between “once a week” (scored 0), “2 or 3 times a week”

(scored 1), “once every day” (scored 2) and “several times a day (scored 3). The same was done for drug use and gambling. This was found to be better adapted than usual measures of addictions, which are very long. The minimum score was 0 and indicated the absence of addictive behaviours in the participant’s family, whereas the maximum score was 11 and indicated high addictive behaviours.

Perceived social support: The Multidimensional Scale of Perceived Social Support (MSPSS) gives a measure of the family’s, friends’ and significant other’s support perceived as being available to the participant (Zimet et al., 1989). It is composed of 12 statements that have to be rated from 1 “very strongly disagree” to 7 “very strongly agree”. The minimum score for the whole scale is 12 and the maximum score is 84. Totals between 12 and 48 correspond to a low acuity in perceived social support, whereas scores between 49 and 68 correspond to a moderate acuity and scores from 69 to 84 to a high acuity. The MSPSS benefits from a good reliability with Cronbach alphas ranging from .85 to .91, and test-retest ranging from .72 to .85 with the same sample (Zimet et al., 1990). Factorial validity was found excellent and no social desirability bias was observed (Dahlem, Zimet & Walker, 2006). The MSPSS was tested with Chinese adolescents and was found to have good concurrent validity, an excellent internal consistency, and good construct validity as the scale correlated negatively with depression and anxiety, and positively with the Lubben Social Network Scale (Chou, 2000). The scale was also tested with African-American adolescents, which confirmed the reliability, validity and utility of the MSPSS (Canty-Mitchell & Zimet, 2000). Finally, the scale was administered to 2,105 high school students in Hong Kong, and despite the fact that in the Chinese context, items relating to friends seemed to overlap with items relating to family, a good cross-cultural validity was found (Cheng & Chan, 2004).

Use of available services: Three questions were devised especially for the study and aimed at giving a picture of how often external services were used by the participants. Questions measured what services participants had used in the past month. Each time a service was mentioned, a point was added. Thus, the minimum score was 0 and represented no use of external service. The number of services available in the area had been set up at 15 by the Filipino partner NGO collecting the data, and hence represented the maximum number of services participants could possibly mention.

Family Stability (marital satisfaction): The Relationship Assessment Scale, a 7-item scale measuring general relationship satisfaction was used for the study (Hendrick, 1988). Participants rated each item from 1 (“low satisfaction”) to 5 (“high satisfaction”). The higher the score was, the more satisfied the participants were with their relationship. The RAS has

been tested for relationship social desirability (Aron et al., 2000). It has also been found to show moderate to high correlations with measures of marital satisfaction, good test-retest reliability and a good cross-cultural validity (Hendrick, Dicke & Hendrick, 1998). Its criterion-related validity was tested with the Dyadic Adjustment Scale (DAS) and found satisfying (Vaughn & Baier, 1999).

Resilience: The Brief Resilient Coping Scale (BRCS) composed of four items was used to measure the participants' resilience (Sinclair & Wallston, 2004). For each statement, participants had to rate from 1 if the statement did not describe them well to 5 if the statement described them very well. Scores ranged between 4 and 20. Under 13, scores represented low resilient copers, between 14 and 17, medium resilient copers and from 18, high resilient copers. Among nineteen resilience measures, the BRCS has been found as one of the best psychometric ratings including cross-cultural validity (Windle, Bennett & Noles, 2011). It has adequate internal consistency and test-retest reliability. Correlations between the BRCS and personal coping resources such as optimism, helplessness, self-efficacy, pain coping behaviours and psychological well-being have demonstrated good construct validity (Sinclair & Wallston, 2004). Also, high correlations were found with social relations, coping and health and negative correlations with anxiety, depression, negative affect and physical symptoms, which suggests good construct validity for the BRCS (Smith et al., 2008).

Translation: All questionnaires were initially devised in English and translated into Tagalog for the purpose of the research. A back translation was carried out to ensure that no mistake had appeared during the translation process and to screen for potential cultural discrepancies. A few modifications occurred during the translation. In the fourth item of the MHI-5, the terms “downhearted and blue?” were translated into “low and weak” as the English concept did not have any correspondence in Tagalog. Also, a discrepancy in the fifth item of the same scale was identified. The original version mentioned “How much of the time, during the past month, did you feel so down in the dumps that nothing could cheer you up?” whereas the back translation was “How often in the past month did you feel so low and hopeless, such that no one could console you?”. In fact, there was no equivalent of “down in the dumps” in Tagalog and “low and hopeless” was chosen as its equivalent. Saying “*nothing* could cheer you up” did not mean much in Tagalog and was therefore replaced by “no one”.

Procedure

A partnership with Inter Aide, a well-established French NGO that has been operating across many countries for more than 30 years, was arranged. Inter Aide's Filipino local partner, EnFaNCE, was chosen to collect data in Manila, as they have been operating in the

slums of Manila for ten years. Experienced EnFaNCE social workers were in charge of collecting the data. They are well-integrated and trusted within the communities they work in, and since their intervention with the families of Tondo (Manila) is mainly psychosocial (assessing the family difficulties and referring the family to relevant services), they have a strong awareness of psychological issues.

The Filipino staff conducted two 1:1 home-based visits with the mothers. Home-based visits are a usual procedure for the organisation. In FDP, parents are visited at home once a week for a period of 6 to 9 months. As mentioned above, all participants had benefited from the NGO's intervention for more than 6 months. Social workers collected data with the families they were in charge of during the FDP support, so the participants already had a good relationship with the social worker collecting the data. On the first visit, the perceived social support scale, the resilience scale and additional questions regarding the use of external services were discussed with the participants. On the second visit, marital relationship (Relationship Assessment Scale), psychological distress (MHI-5) and addictive behaviours were gone into. The order of the topics was devised so as to start with lighter topics and progressively move on to more sensitive ones.

In the Philippines, it is seen as rude and intrusive to ask direct questions, and "sikolohiyang-malaya" (liberated psychology), a new movement in the Filipino Psychology aiming at developing Filipino methods and concepts, argues that questionnaires cannot be used with Filipino people. When questionnaires are used, participants feel under investigation and give average impersonal answers. "Pagtatanun-tanong" (asking around) is seen as a better way to collect information on a specific construct. This method is participatory: the researcher has to be equal in status to the participant, and the participant needs to be able to ask personal questions to the researcher and to be answered. "Sikolohiyang-malaya" also suggests collecting data in an environment familiar to the participants (Enriquez, in Kim & Berry, 1993). Because of these culture-specific aspects and of the incapacity for many participants to read or write, the Filipino social workers read, discussed and helped participants fill in the questionnaires, as these could not read and filled in by the participants directly. In order to standardize the data collection as much as possible and to minimize variations due to the intervention of different social workers in the data collection, a data collection guide and a specific training session were provided to the social workers prior to the data collection.

Results

All scores, except for the use of available services for which data were kurtosed, were normally distributed. Throughout all questionnaires, 12 missing values were noticed. The majority of them appeared in the addictive behaviour questionnaire (which counted 18% of missing data) and were excluded. For the other missing data, a score computed to be the mean of all other scores given by the participant was added to the data set to replace the missing score. Descriptive information for each dimension can be seen in Table 1.

	N	Mean	SD	Min. Score	Max. Score	Median	Distribution
MHI-5	50	18.14	3.44	12	28	18	Normal
Addictive Behaviours	41	2	1.79	0	6	2	Normal
MPSSS	50	31.30	14.16	12	67	29	Normal
Use of external Services	50	2.02	0.77	0	5	2	Leptokurtic 4.16
RAS	50	22.44	5.77	8	33	22.50	Normal
Resilience	50	6.38	2.73	4	15	5	Normal

Table 1. Descriptive information

It is worth noting that there was limited variability in the scores for the use of external services, which, linked to the leptokurtic aspect, indicates a potential dysfunction in the questions used. Also, across participants, a general tendency to score low on the scales was observed. The mean score for social support was 31.30 which corresponded to a low acuity in perceived social support. In addition to this, the mean on the resilience scale was found to be extremely low ($M=6.38$). A large majority of participants scored under 13 which make them be low resilient copers. However, scores on the MHI-5 scale and on the RAS were normal.

In order to explore the validity of the four scales used in the tool kit, an Exploratory Factor Analysis was conducted for the resilience scale, PSS, RAS and MHI-5. Parametric assumptions related to the factor analysis for the four scales were fulfilled. Inter-item correlations for each scale were controlled and found acceptable. For each of the four scales, principal axis factoring with varimax rotation was used to extract factors. Eigenvalues greater than 1 combined with the scree plot were used to determine factors.

In addition to the factor analysis, measurements on the internal consistency (Cronbach Alpha and split half) were performed on the data. Also, concurrent validity was explored in relation with the organisation's phase-out assessment (PO). This assessment is made at the end of the intervention. Families can obtain four different scores: PO= which indicates that between the beginning and the end of the intervention, the family's situation has not changed, PO=+ indicating that family's situation has slightly improved, PO+ indicating that the situation as significantly improved and PO ++ when exceptional changes have occurred in the family's situation. This assessment takes into account field observations made over the six to nine months that the weekly follow-up lasts as well as economic measures of poverty. It is made by the organisation's social workers in team meetings. Correlations between the PO scores and the individuals' scores for each of the scale were scrutinised.

The Mental Health Inventory

A two-factor model explained 63.07% of the total variance. Items that were reversed loaded on a different factor from items that were not reversed (see Table 2). For this model, determinant was =.399, KMO =.440 and Bartlett's =.000. Despite KMO being slightly under .5, the factor analysis was considered valid, as the small size of the sample (N=50) was thought to have influenced the KMO value. It is believed that with a larger sample, KMO would have easily been over .5. It is also worth noting that item 5 did not correlate with any of the two factors.

MHI-5	1	2
Factor 1: Positive items		
3. How much of the time, during the past month, have you been a very nervous person?	.912	.045
4. How much of the time, during the past month, have you felt downhearted and blue?	.718	.120
5. How much of the time, during the past month, did you feel so down in the dumps that nothing could cheer you up?	.075	.025
Factor 2: Reversed items		
1. During the past month, how much of the time were you a happy person?	.017	.802
2. How much of the time, during the past month, have you felt calm and peaceful?	.000	.593

Table 2. Factor loading for the EFA on Perceived Social Support.

The MHI-5 had poor internal consistency ($\alpha=.386$; split half=.045). Removing item 5 led to a better internal consistency ($\alpha=.439$). The correlation with the PO rate was not significant $r(48)=.15, p=.305$.

The perceived social support scale

A four-factor model explaining 72% of the variance was determined for the perceived social support dimension. The EFA showed a determinant of .003, a KMO of .718 and Bartlett's.000. Following on the social support literature, it was expected to find a three-factor solution, however in this case, four factors were found to be greater than 1 on the Eigenvalue (factor 1=4.55, factor 2=1.86, factor 3=1.20, factor 4=1.02). Two of them matched the usual dimensions of the PSS: friends and family, as can be seen in Table 3. The usually Significant Other factor was split into two different dimensions, which are here labelled "general support from significant other" (items 1 and 10) and "intimate support" (items 2 and 5).

Perceived Social Support	1	2	3	4
Factor 1: Friends				
6. My friends really try to help me.	.707	.229	.393	.087
7. I can count on my friends when things go wrong.	.791	.233	.030	.010
9. I have friends with whom I can share my joys and sorrows.	.732	.153	.051	.256
12. I can talk about my problems with my friends.	.709	.095	.151	.278
Factor 2: Significant other – general support				
1. There is a special person who is around when I am in need.	.338	.762	.246	.181
10. There is a special person un my life who cares about my feelings.	.227	.825	.112	.202
Factor 3: Significant other - intimacy				
2. There is a special person with whom I can share my joys and sorrows.	.181	.184	.431	.010
5. I have a special person who is a real source of comfort to me.	.176	.309	.888	.046
Factor 4: Family				
3. My family really tries to help me.	.294	.334	.208	.400
4. I get the emotional help and support I need from my family.	.196	.031	.086	.478
8. I can talk about my problems with my family.	.268	.016	.576	.523
11. My family is willing to help me make decisions.	.024	.434	.068	.540

Table 3. Factor loading for the EFA on Perceived Social Support.

The PSS was found to have a strong internal consistency ($\alpha=.836$; split half=.737). The correlation with the PO rate was not significant $r(48)=-.11, p=.436$.

The Relationship Assessment Scale

A two-factor model was extracted from the Relationship Assessment Scale with a determinant of $\lambda = .058$, a KMO of $\lambda = .737$ and Bartlett's $\lambda = .000$. This model explained 66.2% of the total variance. The scale is initially unidimensional and the second factor identified was linked to items that were negatively worded (as can be seen in Table 4).

RAS	1	2
Factor 1: Positive items		
1-How well does your partner meet your needs?	.615	.084
2-In general, how satisfied are you with your relationship?	.852	.092
3-How good is your relationship compared to most?	.819	.233
5-To what extent has your relationship met your original expectations?	.583	.360
6- How much do you love your partner?	.669	.167
Factor 2: Reversed items		
4- How often do you wish you hadn't gotten into this relationship?	.154	.789
7- How many problems are there in your relationship?	.105	.513

Table 4. Factor loading for the EFA on Perceived Social Support.

Internal consistency for the RAS was limited ($\alpha = .617$; Split half $\lambda = .125$). The correlation with the PO rate was not significant $r(48) = .04$, $p = .797$.

The resilience scale

The resilience scale was found valid on the factor analysis with determinant $\lambda = .505$, KMO $\lambda = .494$ and Bartlett's $\lambda = .000$. As can be seen in Table 2, with Eigenvalue 1 as determining the number of factors, a one-factor model was identified, which suited the unidimensional aspect of the scale. This model explained 43.88% of the variance. However, items 2 and 3 did not load strongly to factor 1, which indicates a potential dysfunction of the overall scale (Table 5).

Resilience	Factor 1
1- I look for creative ways to alter difficult situations.	.771
2- Regardless of what happens to me, I believe I can control my reaction to it.	.169
3- I believe that I can grow in positive ways by dealing with difficult situations.	.124

4- I actively look for ways to replace the losses I encounter in life.	.874
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Table 5. Factor loading of the EFA for the resilience scale.

In addition to this, the resilience scale was found to have poor internal consistency (coefficient $\alpha=.445$; split half=.419). The correlation with the PO rate was not significant $r(48)=-.33, p=.021$.

Discussion

Results show that the MPSS scale despite being designed for a different context has a strong validity in the context of urban poverty in Manila. Other scales such as the RAS and the MHI-5 could be part of the tool kit provided some modifications are made regarding the reversed items. The BRSC scale, questions on addictive behaviour and on use of external services do not function as well as anticipated and need to be further discussed.

Prior to the data collection, it was predictable to find some issues regarding the questionnaire on addictive behaviour. In the Philippines, it is culturally difficult to share about personal difficulties particularly when there are about addictions in the close family (Enriquez, 1995). Addictions are often considered as “vices” that need to be hidden (David & Carpentier, 2009). The fact that the data collection was carried out by experienced social workers who had known the participants for a few months is thought to help overcome the shyness of the participants and help them share about potential addictions. However, the high rate of missing data in the questionnaire on addictions (18% of missing data) can be seen as a sign of discomfort regarding the topic and the disclosure of addictive behaviour occurring within the family. Fifteen participants answered that there was not use of alcohol, gambling or drug in their family at all (36% of the overall sample), and the overall mean (2 (SD=1.79) indicated a general use of alcohol, drug or of gambling of only once a week, which seems unrealistic knowing the situation in the shanty towns and does not fit with other studies performed in this area (Rojas, 2011; David & Carpentier, 2011). This means that in the present study, there was a high social desirability effect on the questions related to addictions. When participants were asked about the frequency of their use of alcohol, drug or gambling and given multiple choices answers, they mainly chose the lowest frequency “once a week”. They probably understood the design of the questionnaire and anticipated that with this

answer, potential addictions would not be detected. Thus, in addition to the discomfort in answering questions on addictions (missing data), there is suspicion of an underplayed self-report of addictive behaviour in the present experiment. Hence, it is recommended for future measurements to use open questions such as “how often do you drink alcohol?”, which will possibly reduce this bias. With open questions, participants will not be able to detect what consumption of alcohol is believed to be linked to addictive behaviour, nor to detect the underlying scoring system, and it is believed that answers will then be closer to reality.

An interesting pattern seems to emerge from the data with all reversed items (items 4 and 7 for the RAS, and items 1 and 2 for the MHI-5) loading to a different factor when indeed a unifactorial design for those scales is expected. Literature suggests that when factor analysis is run in certain settings, reversed items systematically load together to a different factor (King, 2012). In fact, it has been found that when participants have a lower level of education and/or a low motivation in filling in questionnaires, reversed items loaded to a different factor because participants answered those items in the same way they answered other items and missed the negative wording or the reversed aspect of those items (Marsh, 1996). This was first found by Nunnally in 1967 and subsequent research has confirmed this finding (Boling & Dooder, 1990; Kelloway, Catano & Southwell, 1992; Cordery & Sevastos, 1993). As participants in the current design have very low educational background, the fact that all reversed items throughout the different questionnaires loaded to an additional unexpected factor makes sense. King (2012) suggests this phenomenon to be a measurement artifact, and suggests that researchers should ignore the additional factor and consider the scale as following a unifactorial design (in the case of a unidimensional scale understandably). However, linguistic issues might also have interfered in this piece. In Tagalog, the main language spoken in the shanty towns of Manila, and in some other Filipino dialects, answers to a question that includes negative wording, are worded differently than in English. For instance, in English, if asked “Can you confirm that I will not pay for this additional service?”, the answer “Yes (I can)” is expected if the additional service is free. On the contrary, in Tagalog, if the service is free, the answer will be “No”, and vice versa. Speakers in this case stress the second part of the sentence and say “No, you will not pay for this additional service”. In the present study, initial scales were phrased with the English semantic and scores were computed on it. However, in the Filipino context, answers were done following the Tagalog semantic but computed with the English based scoring system. Consequently, they wrongly loaded on a different factor. This could not be spotted in the back

translation as both versions seen by researchers were in English. Accordingly, it does not seem accurate to follow King's suggestions and to consider the additional factor in RAS and MHI-5 as a measurement artifact, but to identify that reversed scores and negative worded items do not work in the Filipino context and should therefore be removed from the final tool kit.

Despite not being a reversed item, something similar seems to have happened with the item 5 of the MHI-5 scale "How much of the time, during the past month, did you feel so down in the dumps that nothing could cheer you up?". This item did not load to any of the two factors identified in the EFA. This can be explained by the fact that the construction of the sentence including negative wordings might have created confusion. Changes in the back translation indicated a difficulty in finding an equivalent between the sentence in English and the Tagalog version. It is therefore suggested to either remove this item from the final tool kit or to see with translators if rephrasing this item into a meaningful sentence in Tagalog is feasible.

The MPSS scale was found to be strongly valid and reliable and to show a low acuity in social support, which coincides with Schlumberg (2006) and Allendorf's findings (2013). This was reinforced by the kurtosis of the data linked to the use of external services, which indicated a general low use of services among participants. Indeed, results show that on average participants used two services in the previous month, mainly health services. However, this trend in the use of services needs to be relativized, since questions asked during the study focused on the number of services participants had used in the previous month and not on their knowledge of the services available to them. In the final tool kit, it could be better to add a measure of what services participants know they can use if needed, in addition to the ones they used in the previous month. This will provide a better picture of the participants' knowledge of the support available to them.

What the MPSS scale also indicates is that there is an additional underlying dimension to social support for people living in the shanty towns of Manila. In fact, a three-factor solution was expected and a four-factor solution was found instead. Though the factors *friends* and *family* followed a normal and expected structure, the factor *significant other* was on the other hand found to be different. In the present context, there are two subdivisions to the type of social support brought by the significant other, one that can be labelled a general support and encompasses two items of the scale, and another that can be seen as an intimate support and that also comprises two items. This indicates that for people living in the shanty

towns of Manila intimate support is different to the general support someone very close can bring. In the present design, both underlying dimensions are classified under the same type of social support “*significant other*”, which suggests that it is the same person that provides those two types of social support. However, it could also be divided into two different *significant others*. This finding is reassuring as it shows that the MPSS scale has adequately been flexibly transferred from a western culture to a Filipino one. Having an additional factor in a different cultural context happened in other studies (Chen & Chan, 2004), and show a good flexibility of the scale.

Results show that scores on the resilience scale are very low for the sample. The sample mean is 6.38 (SD=2.73) in a scale where participants scoring under 13 are deemed very low resilient copers. However, the fact that items 2 and 3 did not strongly loaded to factor 1 shows a potential dysfunction for the overall scale. Cronbach Alpha and Split-half are also quite low and show poor reliability. Originally, this 4-item scale was used in order to cover many issues with minimum questions; however, it did not perform well in this context. In the final tool kit, longer and more robust resilience scales such as Wagnild & Young scale (1993) and/or Connor & Davidson scale (2003), which have both shown better reliability and validity than the BRCS, should be used.

Against expectations, results regarding the MHI-5 scale show a normal prevalence of common mental disorders among participants. Many studies have shown a high rate of mental disorders in low-income communities and this result is thus surprising as it contradicts previous research (Weich & Lewis, 1998; Reijneveld & Schene, 1998; Patel, Gwanzura, Simunyu, Lloyd, & Mann, 1995; Patel, Pereira, & Mann, 1998). Pitfalls in the validity of the scale do not explain this finding as the MHI-5 scale was found valid. When the fifth item (that did not load to any factor) was removed, it improved Cronbach Alpha, which suggests again an overall good reliability of the scale. Hence, for parents living in the shanty towns of Manila, there is a normal prevalence of common mental disorders. This finding suggests that it is not the prevalence of common mental disorders that is dominant and determinant in poverty contexts, but low social support and low resilience. Between the three aspects of psychological vulnerability defined earlier — distress, social support available (external and internal) and individual differences (resilience) — it is the last two that are determinant in explaining variations in psychological vulnerability for people living in extreme poverty.

The concurrent validity of the scales could not be determined, as no correlation between the scales and the phase-out assessment, believed to be a different measure of psychological vulnerability, was significant. This can partly be explained by the fact that the present scales offer an instant picture of the psychological vulnerability of the participants, whereas the PO assessments are post-operation measures that include observations done over several months. PO assessments reflect the psychological state of the family, its achievements, integrate potential future risks and include an economic component (poverty assessment tool), hence they are long-term measurements unlike the present tool kit. A different measure should be chosen in order to test the validity of the final tool kit.

Overall, the MPSS scale is suitable for the Manileño urban poverty context as such and should be part of the final tool kit. The RAS and MHI-5 scales are also applicable, provided that the reversed items are removed from the final version of the scales. The BRC scale is not appropriate and another scale should be tested in order to provide a measure of resilience. In order to increase variability, questions regarding the use of external services should be combined with other questions aiming at measuring the participants' familiarity with the available services. Finally, questions on addictions should be removed from the overall tool kit, as they do not seem to be acceptable in the Filipino context.

This study — aside from laying the foundation of a tool aiming at measuring psychological vulnerability — shows meaningful trends in the psychological state of people living in poor urban areas. The three main dimensions initially identified as essential components of psychological vulnerability measurement — psychological distress, social support available and internal resilience — are tested, and findings indicate that psychological vulnerability in a context of poverty lies more in social support and individuals' resilience than in the presence/absence and intensity of common mental disorders. This has strong implications for the measurement and monitoring of poverty as well as for poverty alleviation programmes everywhere in the world. It means that a substantial part of the intervention designed for the poor needs to focus on enhancing individuals' resilience and social support in addition to dealing with mental health issues. It also means that the support given to people experiencing extreme poverty cannot only be economic but needs to be combined with a more psychological approach.

To conclude, this study has investigated the need for the inclusion of a measure of psychological vulnerability in overall measures of poverty. Six dimensions were established as essential components of psychological vulnerability in the specific context of the shanty towns of Manila, and scales and questionnaires were tested with deprived parents. Exploratory factor analysis and techniques investigating reliability and validity were performed on the data set and indicated that the scales and questionnaires were partly valid and reliable and could constitute the basis of a tool kit measuring psychological vulnerability.

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