

Methodological quality of strength-based intervention programmes in Latin America: A systematic review of the literature

Qualidade metodológica de programas de intervenção baseados em fortalezas na América Latina: uma revisão sistemática da literatura

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Abstract. This review systematically synthesised information of strength-based intervention programmes for adults conducted in Latin America, and summarized the current body of evidence available about the *methodological quality*, efficacy and/or effectiveness of these programmes, as well as implications of the findings for future research and evidence-based practices in Psychology. Medline, Scopus and PsycINFO databases (no chronological window restriction) were searched for empirical work on strength-based interventions programme. Overall, 15 studies were included and assessed for methodological quality. The interventions selected focused on assertiveness, empathy, coping, forgiveness, gratitude, optimism and resilience. The results revealed that 100% of the studies identified some kind of positive effect after intervention. However, methodological quality of studies showed a variety of pitfalls. Only 46% of studies achieved high quality and two studies applied experimental design (randomization). Implications for future research on intervention outcome assessment are discussed.

Keywords: positive psychology, methodological quality, intervention programme.

Resumo. Esta revisão sintetizou sistematicamente informações sobre programas de intervenção baseados em fortalezas, para adultos, conduzidos na América Latina, e resumiu o atual corpo de evidências disponíveis sobre a qualidade metodológica, eficácia e/ou efetividade desses programas, bem como as implicações dos resultados para futuras pesquisas e práticas baseadas em evidências em Psicologia. Buscas foram feitas nos bancos Medline, Scopus e PsycINFO (sem restrição cronológica) por artigos empíricos sobre programas de intervenção baseados em fortalezas. Ao todo, 15 estudos foram incluídos e avaliados quanto à qualidade metodológica. As intervenções selecionadas focaram em assertividade, empatia, enfrentamento positivo do estresse, perdão, gratidão, otimismo e resiliência. Os resultados revelaram que 100% dos estudos identificou algum tipo de efeito positivo após a intervenção. No entanto, a qualidade metodológica dos estudos mostrou uma variedade de falhas. Apenas 46% dos estudos alcançou alta

qualidade, e dois estudos utilizaram delineamento experimental (randomização). Implicações para futuras pesquisas sobre avaliação de resultados de intervenção são discutidas.

Palavras-chave: psicologia positiva, qualidade metodológica, programa de intervenção.

Introduction

Interventions in Psychology have mostly emphasized the role of evidence-based health-related programmes aimed at providing optimal human functioning (Straub, 2012). Following the guidelines for evidence-based practices in Psychology (EBPP), within the last decades psychological interventions have prompted excellence in the delivery of health services, in line with empirical support from the best available research and expertise in the fields of healthcare applied to professional practices (APA, 2006). In that, empirical evidence set the basis for health interventions programme and subsequent evaluation criteria for programmes' outcomes. The rationale underlying EBPP is not only to improve the quality of health promotion programmes in Psychology, but also to ensure the efficacy of programmes results and impact on public health policies in the long run (APA, 2002). Efficacy refers to the scientifically detected beneficial effects produced by the programme to a target population when delivered in a controlled setting, whereas effectiveness refers to outcomes when intervention programmes are delivered in real-world conditions or clinical settings (APA, 2002; APS, 2010). On this basis, this paper focuses on summarizing evidence available about the methodological quality, efficacy and/or effectiveness of strength-based programmes for health promotion, addressing implications of the findings in the fields of evidence-based practices in Psychology.

The use of consolidated scientific evidence for the implementation of cost-effective health intervention programmes has become a major standpoint for decision-making in terms of worldwide public healthcare (APS, 2010). The evidence-based approach in psychological research and practice illustrates the significant role and responsibility of psychologists in developing and delivering effective health programmes relevant to patient's needs and culture (APA, 2006). In this case, it is expected that programmes successfully meet the re-

quirements for a high-quality service by not only achieving their previously set goals and agenda, but also contributing to social welfare. This is expected to be achieved by empowering individuals and communities to successfully get hold of their own determinants of health (physical, emotional, spiritual and environmental factors that influence health) through the dissemination of education for health practices (Albee, 1982; HPI, 2014; Jack *et al.*, 2012; Schwartz, 2000). This is considered a fundamental and sustainable principle for health promotion, when individuals assume responsibility for their own health, and deliberately act towards health-promoting behaviours. In this regard, it is known that empirically-supported and well-structured health intervention programmes extend to provide long-lasting effects and positively impact on a wide range of individuals' health behaviours and health outcomes (Shapiro *et al.*, 2000).

Also aligned with the changing nature of EBPP and demands in healthcare perspectives, Biopsychosocial approaches to health grounded on concepts from Positive Psychology have been systematically applied as an effort to enhance the preventive aspects of health programmes in Psychology (Snyder and Lopez, 2007; Straub, 2012). In other words, recent psychological interventions started to pinpoint the preventive role of strength-based programmes including biological, psychological and social variables that were previously overlooked in empirical science and research. Strength-based perspectives for health promotion entail a wide variety of personal (dispositional factors, such as positive goal-setting, problem-solving and empathic skills, an optimistic take on life) and interpersonal factors (family and peer relations, positive environment, and so forth), all of which function as pillars to building on one's capacity to better deal with life stressors and demands (Norman, 2000; Masten, 2014; Snyder and Lopez, 2007). Such factors were also referred to as universal character strengths, and the very principal underlying strength-based inter-

ventions is that of highlighting one's already existing strengths (potentials or virtues), or helping one develop such strength and optimal functioning (Aspinwall and Staudinger, 2013; Seligman, 2002). The strength-based perspective happens to contrast previous health intervention approaches that would primarily focus on individuals' deficits or lack of skills – psychopathology – as an attempt to reduce symptomatology (Seligman, 2002; Seligman and Csikszentmihalyi, 2000).

This shift in perspectives helped to identify that some less obvious psychological resources, happen to be significant predictors of incremented health and decreased likelihood of illness (Seligman and Csikszentmihalyi, 2000; Straub, 2012). It turns out that by promoting human strengths, may function as protective factors for the development and maintenance of health (Seligman, 2002). Amongst the strengths identified useful for psychological and physical health (Aspinwall and Staudinger, 2013; Linley *et al.*, 2007; Falcone, 1999) are constructs related to social skills, thought to be central to foster one's resources to effectively engage, and remain in social interactions along the course of individuals' lives. Social skills entail the various interpersonal patterns of an individual's behaviours learned from previous social interactions. In that sense, empathy is seen as a key component for the quality and length of interpersonal relationships, due to being a main factor necessary for individuals be more sensitive and emotionally engaged in the needs of others (Falcone, 1999; Correa, 2008), be socially connected (Ward and Durrant, 2013) and for the establishment of positive interpersonal relationships, hence reduced social violence (Mytton *et al.*, 2002). Empathy was also associated with the effectiveness of health interventions in previous reviews (Grenard *et al.*, 2006).

In a similar manner, empathy seems to be a precursor to trigger other fundamental strengths such as gratitude and forgiveness (Emmons and McCullough, 2003; Snyder and Lopez, 2007). Gratitude refers to the disposition of recognizing and being thankful for people or things in life. Recent evidence suggests that individuals who express more gratitude also present increased life satisfaction, positive affect and subjective well-being. Not surprisingly, gratitude and positive gratitude outcomes also correlate with incremented physical activities, more optimistic views of life situations and less frequent visits to physi-

cians (Emmons and McCullough, 2003). Likewise, interventions to promote one's ability to forgive (personal disposition to abandon the resentment against a transgressor) have been documented to result in decreased levels of depression-like symptoms, less frequent episodes of anxiety, as well as increased hope, optimism in the future and life satisfaction (Livingstone *et al.*, 1996). The combination of these psychological and physical outcomes are considered core variables underlying human capacity to overcome adversities (Resilience), thus crucial for a well-balanced physical and mental health (Aspinwall and Staudinger, 2013; Snyder and Lopez, 2007; Straub, 2012).

The recognition of human strengths as fundamental psychological resources, and mediating factors for one's competent social repertoire (Seligman and Csikszentmihalyi, 2000; Straub, 2012), reduced health-related implications (Trivedi, 2015) and preventive measures to health (Sarafino and Smiths, 2014), led to the increasing development of a wide range of health promotion interventions to different target populations worldwide (Kelm *et al.*, 2014). It is worth noting still that due to the multitude of variables that tend to play a role in an individual's well-being and optimal states of health functioning, researchers have stressed the need of delivering multicomponent intervention programmes. That is, programs that incorporate a combination of efforts/practices, as well as different variables of interest to maximize benefits of targeted outcome variables (Shults *et al.*, 2009).

However, although considerable amount of empirical evidence state clear the need of evidence-based health practices in psychological science, the number of interventions that have been put under scientific scrutiny for adequate methodological quality, efficacy and/or effectiveness, and impact on programme receiver's needs, remains below the ideal level. This is particularly true in Latin American contexts, where lack of resources (financial and human resources), public policies to ensure paramount health practices and, at times, lack of professional expertise in the delivery of services, put additional burden on evidence-based health practices in Latin America (Babor and Caetano, 2005).

So far, the vast majority of strength-based intervention studies that have been systematically assessed for outcome measures and cost-effective results, are those conducted in English-speaking countries, or published in

English language (Coren, 2013). Yet, the scarcity of research available on studies of such interventions in non-English speaking countries leaves no grounds for comparisons about the quality, efficacy and/or effectiveness of these interventions. This is a critical issue to be addressed once current Psychology main taskforce has been to ensure the dissemination of effective preventive measures, as opposed to only lessen individuals' already existing illnesses (APA, 2006; Straub, 2012).

Thus, despite the recent growing interest in the fields of healthcare in delivering strength-based intervention programmes (Albee, 1982; Coren, 2013; Shults *et al.*, 2009), it is crucial that the question of having empirically-supported interventions is also addressed for non-English speaking contexts, so that comparative conclusions of effective health interventions may be drawn thoroughly. On this basis, the purposes of this systematic review are: (i) to describe and discuss the studies available about strength-based intervention programmes for adults conducted in Latin America; (ii) to summarize the current body of evidence available about the methodological quality, efficacy and/or effectiveness of these programmes in Latin America; (iii) to point out implications of these findings for future research and evidence-based practices in Health Psychology.

Methods

Literature searches were conducted in August 2015 and April 2016, to assess existing reviews related to the present research questions on: the Cochrane Database of Systematic Reviews (CDSR); the Database of Abstracts of Reviews of Effects (DARE); the Campbell Library of Systematic Reviews; the database of systematic and non-systematic reviews of public health interventions (DoPHER) available from the Evidence for Policy and Practice Information (EPPI) Centre (CRD, 2009). The searched terms were: 'empathy programmes/programs', 'empathy'; 'forgiveness programmes/programs', 'forgiveness'; 'assertiveness programmes/programs', 'assertiveness'; 'resilience programmes/programs', 'resilience'; 'optimism programmes/programs', 'optimism'; 'coping programmes/programs', 'coping'; 'gratitude programmes/programs', 'gratitude', and 'strength-based', 'strength-based intervention'.

A series of published reviews was found across the different databases including interventions for the promotion of physicians em-

pathy (Shapiro *et al.*, 2000), psychotherapeutic interventions to promote forgiveness (Livingstone *et al.*, 1996), assertiveness interventions to reduce aggressive behaviour in people with learning disabilities (Hassiotis and Hall, 1996); psycho-educational interventions for resilience in children (Coren, 2013), coping with multiple sclerosis (Busch *et al.*, 2014) and cancer (Li and Loke, 2014). There were no reviews identified for the searches including 'gratitude', 'optimism' and 'strength-based' key terms. All literature reviews identified gather articles mostly from North America, Europe and Oceania. Thus, not having found evidence of previous review that addresses the present research questions for adult population, within the Latin American context, and that applied criteria for programme evaluation, this reinforces the need for conducting this review.

Eligibility criteria for studies

The studies selected included empirical programme intervention for adults (18 years of age or above) conducted in the Latin American countries (language of publication: English, Spanish and Portuguese), that state at least two variables of interest (empathy, forgiveness, assertiveness, resilience, optimism, coping and gratitude) as primary or secondary outcome measures, in order to assess multicomponent intervention programmes. Additional to those, papers had to incorporate criteria for programme evaluation (qualitative or quantitative research methods; present objective or subjective measures/indicators of programme evaluation; and/or follow-up results), as well as to have made use of at least one standardized instrument to be included. The databases used were PsychINFO, Medline and SCOPUS including English, Spanish and Portuguese terminology. There was no restriction (chronological window or timeline) of dates or publication period for the studies evaluated. The publication timeline of evaluated studies was kept open to check the progress of health research in Latin America including the variable of interest. Keywords used for the searches were: intervention; AND adults; AND Latin America; AND empathy; AND gratitude; AND forgiveness; AND optimism; AND assertiveness; AND resilience; OR strength-based; OR programme OR program OR training; without the words: child*, adolescent*, school*, youth*. The keywords were adapted to each database in accordance with thesaurus for the control

of terms and indexation in health and psychological sciences. The reference lists of full-text articles evaluated for eligibility were analyzed as supplementary resources to identify potentially relevant articles for this review.

Study selection

Figure 1 shows the different phases of studies selection. Each paper title and abstract generated by the searches was individually examined in contrast with the eligibility criteria for study inclusion in the review. Screening for duplicates was conducted simultaneously to abstract extraction, paying particular attention to participants, intervention, outcomes or outputs and study design. Those that matched inclusion criteria were compiled and the full-text article version was further investigated for methodological adequacy. Out of 1510 results of non-duplicated abstracts available for the

search, 126 articles were analyzed in further details. Of these, 111 studies were excluded for other reasons (did not include at least two variables of interest [n= 67]; did not include at least one valid instrument [n = 7]; did not include studies from Latin America [n= 11]; did not describe programme intervention [n= 25]; different publications of the same study [n = 1]). The searches, analysis and selection process of obtaining data was conducted by the author (H.D.), and further checked by an independent researcher from the same higher education institution, to reduce methodological bias in the review process.

Methodology quality assessment of selected studies

Each selected study was rated for methodology quality to reduce the risk of bias and increase measures of consistency for studies

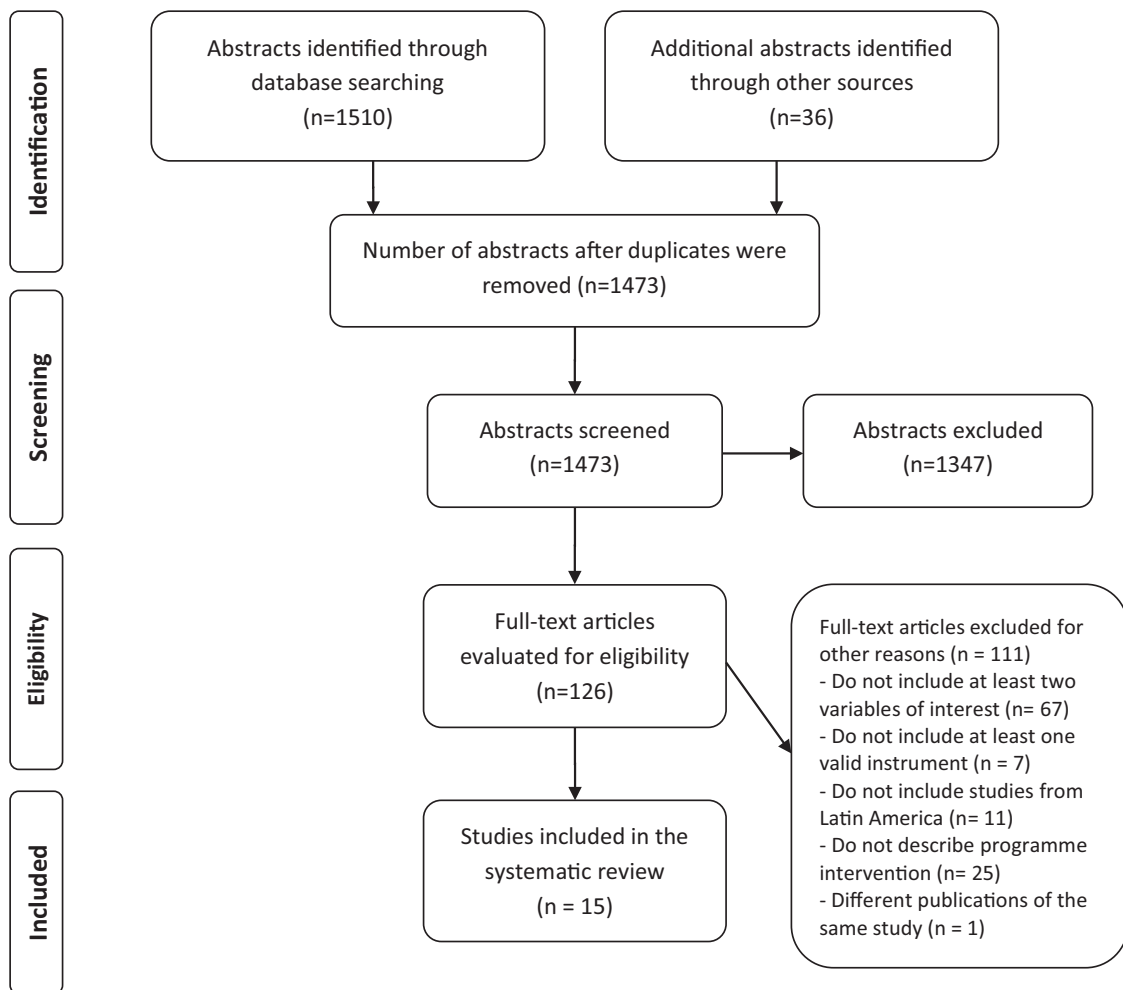


Figure 1. PRISMA flow diagram of processes for systematic review.

quality assessment. This was adapted and followed Barra *et al.* (2008) and García-Llana *et al.* (2014) instrument for critical evaluation of cross-sectional studies, also in accordance with PRISMA guidelines for evidence-based research. The rating consisted of awarding one point for each of the required quality criteria fulfilled by the analysed study. The 12-point quality criteria are described in Table 1. It includes four main types of criteria: *Research selection and design (includes five criteria)*; *Study variables: Definition and measurement (includes two criteria)*; *Method and analysis of data (includes three criteria)*; *Results and discussion (includes two criteria)*. Based on a 12-point scale, high quality articles comprise studies that reach 9-12 points; medium quality includes 5-8 points; and low quality articles rate between 1-4 points. Details of studies quality benchmarks are available in Table 1.

Results

The studies evaluated presented different degrees of research design quality. The major-

ity of studies only presented modest support for effectiveness interventions (see details in Table 2). Out of 15 full-text articles reviewed, seven showed high-quality, whereas the other eight studies reached medium-quality standards. Of the high-quality, only two studies utilized experimental design (Cruz-Almanza *et al.*, 2006; Rocha *et al.*, 2013) with adequate random allocation of participants to conditions, despite none of the studies have ensured control over double-blind procedures to treatment groups (Shaughnessy *et al.*, 2012). Nonetheless, if we ought to agree that in order to fulfil methodological requirements for a high level programme intervention, designs should include at least pre-post evaluation and, ideally follow-up studies, the number of high-quality papers which included pre-test and post-test outcome measures drops to only six studies being a CBT group intervention for abused women in Mexico (Cruz-Almanza *et al.*, 2006); a Positive Psychology programme to improve depressive symptoms and life satisfaction of the elderly in Chile (Cuadra-Peralta *et al.*, 2012); two occupational stress manage-

Table 1. Methodology quality of the studies systematically reviewed.

	1	2	3	4	5	6	7	8	9	10	11	12	Total	Quality
Borges <i>et al.</i> (2014)	1	1	0	1	0	1	0	0	0	0	1	1	6	Medium
Coelho <i>et al.</i> (2007)	0	1	0	1	0	1	1	0	0	0	1	1	6	Medium
Cruz-Almanza <i>et al.</i> (2006)	1	1	1	1	1	1	1	1	1	0	1	1	11	High
Cuadra-Peralta <i>et al.</i> (2012)	1	1	1	1	1	1	1	1	1	0	1	1	11	High
Espín Andrade (2009)	0	1	1	1	0	0	1	0	0	0	1	1	6	Medium
Murta <i>et al.</i> (2009)	0	1	0	1	1	1	1	1	1	1	1	1	10	High
Murta <i>et al.</i> (2007)	1	1	0	1	1	1	1	0	1	0	1	1	9	High
Murta <i>et al.</i> (2004)	1	1	0	1	1	1	0	1	0	0	1	1	8	Medium
Pinheiro <i>et al.</i> (2006)	0	1	1	1	0	0	0	1	0	1	1	0	6	Medium
Pivaral <i>et al.</i> (2015)	0	1	1	1	1	1	1	0	0	0	1	0	7	Medium
Pureza <i>et al.</i> (2012)	0	1	0	1	0	0	1	0	0	0	1	1	5	Medium
Quiceno <i>et al.</i> (2011)	1	1	1	1	1	1	1	1	1	0	1	1	11	High
Rocha <i>et al.</i> (2013)	1	1	1	1	1	1	1	0	1	0	1	1	10	High
Toledo <i>et al.</i> (2011)	1	1	1	1	1	1	1	1	1	0	1	0	10	High
Vera-Villaruel <i>et al.</i> (2005)	0	0	1	1	0	1	1	0	1	0	1	1	7	Medium

Notes: (1) Study states participants inclusion and/or exclusion criteria; (2) The sample selection method is specified; (3) The research design is mentioned; (4) The number of participants is defined; (5) N in each group is mentioned; (6) The DV and IVs are clearly defined; (7) The study uses validated instruments to assess the variables; (8) The study sample includes 30 participants or more; (9) The statistical tests used are specified; (10) Participant loss or missing data was checked before statistical analyses; (11) The results are in line with the study objectives; (12) The study considers practical implications and benefits for future research and practice.

Table 2. Instruments included in the reviewed studies.

Outcome	Instrument (reference)	Reference of the study	α at the present study	Effect at the end of study (yes/no)	Effect at follow up (yes/no)
Assertiveness	The Assertion Inventory (Gambrill and Richey, 1975)	Cruz-Almanza (2006)	no	yes at 18 weeks	yes at T2 (3 months) and T3 (6 months)
	Adult Self-Report – ASR (Achenbach, 2001)	Pureza <i>et al.</i> (2012)	no	no significant result at 10 weeks	n/a
	Inventário de Habilidades Sociais (Del Prette and Del Prette, 2001)	Murta and Tróccoli (2009)	no	n/a	n/a
Coping	Inventario de Asertividad de Rathus – RAS (Rathus, 1973)	Vera-Villarroel <i>et al.</i> (2005)		yes at 1 week	n/a
	Social Skills Rating System – SSRS (Gresham and Elliott, 1990)	Rocha <i>et al.</i> (2013)	yes	yes at 6 months	yes at T2 (length not specified)
	Child Behavior Checklist – CBCL (Achenbach, 1991)	Coelho and Murta (2007)	no	n/a	n/a
	The Birmingham Coping Inventory (Orford <i>et al.</i> , 1996)	Cruz-Almanza (2006)	no	yes at 18 weeks	yes at T2 (3 months), T3 (6 months) and T4 (18 months)
	The Coping with Job Stress Scale (Latack, 1986)	Murta and Tróccoli (2009)	no	n/a	n/a
	The Latack Coping Strategies Scale (Latack, 1986)	Murta and Tróccoli (2007)	no	no significant result at 12 weeks	n/a
	Maslach Burnout Inventory Scale (Maslach and Jackson, 1996)	Pivaral <i>et al.</i> (2015)	no	n/a	n/a
	Child Behavior Checklist – CBCL (Achenbach, 1991)	Coelho and Murta (2007)	no	n/a	n/a
	Inventário de Habilidades Sociais (Del Prette and Del Prette, 2001)	Rocha <i>et al.</i> (2013)	yes	yes at 6 months	yes at T2 (length not specified)
	Maslach Burnout Inventory Scale (Maslach and Jackson, 1996)	Pivaral <i>et al.</i> (2015)	no	n/a	n/a
Optimism	Life Orientation Test –revised (Scheier <i>et al.</i> , 1994)	Vera-Villarroel <i>et al.</i> (2005)	no	no significant result at 1 weeks	n/a
Resilience	Resilience Scale – RS (Wagnild and Young, 1993)	Quiceno <i>et al.</i> (2011)	yes	yes at 6 weeks	yes at 3 months

Note: n/a = not applicable.

ment interventions in Brazil (Murta and Tróccoli, 2009, 2007); a brief intervention to foster Resilience in chronically ill patients in Colombia (Quiceno *et al.*, 2011); and an intervention programme to improve anxiety and emotional regulation of working labours in Cuba (Toledo *et al.*, 2011).

In terms of follow-up studies for the impacts of high-quality programmes in the long-term, results are even more sparse where only three papers reported follow-up assessments at T2 (three months), T3 (six months) and T4 (18 months) (Cruz-Almanza *et al.*, 2006); T2 (three months) (Quiceno *et al.*, 2011); and a social skills educational programme for mothers of ADHD children in Brazil, which included but did not report follow-up length (Rocha *et al.*, 2013). Despite having reached high-quality status, only one study showed significant results for all primary outcome measures – for the purpose of this review: Coping and Assertiveness (Cruz-Almanza *et al.*, 2006). Of the six other papers rated high-quality, two outlined at least two variables of interest for this review as primary outcome measures. Of those, an anxiety and emotional regulation intervention for labours (Toledo *et al.*, 2011) showed significant differences for Coping across groups, and one study (Murta and Tróccoli, 2007) presented no significant results for any variable of interest (expected to improve Assertiveness and Coping) following a stress management intervention. Two high-quality papers (Rocha *et al.*, 2013; Quiceno *et al.*, 2011) showed only one variable of interest as primary outcome measure (Assertiveness and Resilience, respectively), stated in the programmes' main objectives. These studies were included in this review due to presenting other variables of interest as unexpected secondary outcome measures (as a result of interaction effects of primary outcome measures) following a social skills educational programme – also expected to improve Coping and Empathy (Rocha *et al.*, 2013) and a brief intervention for chronically ill patients – expected to improve Gratitude and Assertiveness (Quiceno *et al.*, 2011). Similar interaction effects were detected in two other studies following a stress management intervention – to improve Coping (Murta and Tróccoli, 2009), and a Positive Psychology programme – Forgiveness, Gratitude and Optimism as secondary outcome measures (Cuadra-Peralta *et al.*, 2012).

The number of medium-quality papers which included pre-post evaluations is modest

to only four studies including a psycho-education intervention for self-care of elderly males in Brazil (Borges and Seidl, 2014); a social skills educative training for parents of children with behavioural problems in Brazil (Pinheiro *et al.*, 2006); a social skills training for university students with social anxiety/phobia in Brazil (Pureza *et al.*, 2012); and a brief behavioural intervention for the management of emotional states of teachers in Chile (Vera-Villarroel *et al.*, 2005). Only one medium-quality paper used follow-up study at T2 (four months) and reported improvement in Assertiveness and Empathy following a psycho-education intervention (Borges and Seidl, 2014). One medium-quality study utilized a pre-experimental design and was shown to result in increased Coping and no significant results for Assertiveness following a psycho-education intervention for carers of demented elderly (Espín-Andrade, 2009). Another medium-quality paper analysed the levels of satisfaction and dissatisfaction of hospital workers with a Cognitive Behavioural Model for stress reduction (Murta and Tróccoli, 2004) and did not include analysis of programme's main effects and/or outcomes, efficacy, pre-post evaluations and follow-up studies. Unexpected high dropout rates for severe anxiety individuals, as well as no significant results for Assertiveness and Empathy were detected following a social skills training intervention for university students with social anxiety and/or social phobia (Pureza *et al.*, 2012). A group training programme for parental educational practices (Coelho and Murta, 2007) and a psycho-educative intervention to reduce Burnout in the workplace (Pivaral *et al.*, 2015) reported increases in Coping and Empathy. Assertiveness was reported to improve and no significant result was found for Optimism after a brief behavioural intervention for emotional states of teachers (Vera-Villarroel *et al.*, 2005), as well as improvement in Assertiveness and Empathy following a social skills educative training for parents of children with behavioural problems (Pinheiro *et al.*, 2006).

Methodology quality

The overall score for methodology quality criteria of high-quality papers (9-12 points) was achieved by seven studies out of 15; where as the other eight studies achieved medium-quality (5-8 points). No study was classified as low quality (1-4 points). The item-by-item break-

Table 3. Main characteristics and results of the 15 studies included in the systematic review.

Author(s), (year), countries	Design/ Objectives	Sample/Mean age (range)	Journal/ Language of publication	Dependent variables	Instruments	Outcomes	Variables manipulated in the intervention
Borges and Seidl (2014), Brazil	Quasi-experimental design, within subjects, T0, pre-test), T1 (post-test), T2 (4 months), 9 (90 minutes) weekly group sessions./To evaluate the effects of a psycho-education intervention for self-care of elderly males.	N=13 (M=13, F=*)/Mean age = 69,5 (62 -78)	<i>Psicologia, Saúde & Doenças</i> , Portuguese	Healthy eating habits; physical activity; emotional regulation; assertiveness.	Qualitative Self-assessment health questionnaire (QUASHI)	Strengthened self-care behaviours; exercise; assertiveness; healthy food intake; empathy; perspective taking; reduced shyness and social anxiety.	Assertiveness; Empathy
Coelho and Murta (2007), Brazil	Quasi-experimental design, within subjects, 20 (90-minute) weekly group sessions./ To evaluate the effects of a group training programme for the development of parental educational practices.	N=7 (M=2, F=5)/ Mean age =* (31-50)	<i>Estudos de Psicologia</i> , Portuguese	Positive educational practices; educational social skills; coping strategies.	Qualitative non-structured interviews; Child Behaviour Checklist (CBCL)	Improved: Positive parental practices; educational social skills; coping strategies; positive behavioural responses and autonomy of children.	Coping; Empathy
Cruz-Almanza et al. (2006), Mexico	Experimental design, between subjects, T0 (pre-test), T1 (post-test), T2 (3 months), T3(6months), T4 (18 months), 18 (150-minute) weekly group sessions./To check the effects of a CBT intervention to empower women abused by their problem drinker spouses.	N=35 (M=* F=35), Mean age*(25-50)	<i>Salud Mental</i> , Spanish	Self-esteem; coping; assertiveness.	The Assertion Inventory (Gambrell and Richey, 1975) The Coopersmith Self Esteem Inventory; The Birmingham Coping Inventory; Mini International Neuropsychiatric Interview	Improved: Self-esteem and coping strategies at T2, T3 and T4; Assertiveness at T1, T2 and T3	Assertiveness; Coping

Table 3. Continuation.

<p>Cuadra-Peralta <i>et al.</i> (2012), Chile</p>	<p>Quasi-Experimental Design, between subjects, T0 (pre-test), T1 (post-test), Positive Psychology group: average 2-hour weekly group sessions for 6 weeks, total= 22 hours of intervention; Recreational Activities: 1-hour weekly group sessions for 6 weeks, total= 11 hours of intervention)/Group comparison to evaluate the effects of a Positive Psychology program for depressive symptoms and life satisfaction of the elderly.</p>	<p>Total N=43, Positive Psychology group: N= 13 (M=*, F=*)/Mean age = 71 (*-*) Recreational Activities Group: N= 16 (M=*, F=*)/Mean age = 78 (*-*) Control Group: N= 14, (M=*, F=*)/Mean age = 74 (*-*)</p>	<p><i>Psicología: Reflexão e Crítica</i>, Spanish</p>	<p>Depressive symptomatology; Satisfaction with life.</p>	<p>The Geriatric Depression Scale (GDS); Escala de Satisfaccção Vital</p>	<p>Improved: Satisfaction with life and depressive symptomatology in the Positive Psychology group at T1.</p>	<p>Forgiveness; Gratitude; Optimism</p>
<p>Espín Andrade (2009), Cuba</p>	<p>Pre-Experimental Design, within subjects, 10 weekly group sessions./To develop and evaluate the effectiveness of a Psychoeducational program for informal caregivers of demented elderly people.</p>	<p>N=16(M=*, F=*)/Mean age =* (*-*)</p>	<p><i>Revista Cubana de Salud Pública</i>, Spanish</p>	<p>Coping skills; assertiveness; autonomy; problem-solving; self-care; time-management.</p>	<p>Escala Psicosocial del cuidado</p>	<p>Improved: feelings of anguish; fear; rage; leisure time; self-care; non significant results for: socioeconomic variables; hopelessness; guilt; resentment; loneliness.</p>	<p>Assertiveness; Coping</p>
<p>Murta and Tróccoli (2009), Brazil</p>	<p>Quasi-experimental design, between subjects, 12 (90-minute) group sessions./A comparative study to evaluate different psychoeducational interventions for occupational stress management.</p>	<p>Total N=131, Stress Management group: N = 68 (M =*, F =*)/Mean age =* (*-*)/Social skills intervention: N= 63 (M =*, F =*)/Mean age = 39 (*-*)</p>	<p><i>Revista Brasileira de Terapia Comportamental e Cognitiva</i>, Portuguese</p>	<p>Coping skills; self-esteem; blood pressure; immunity.</p>	<p>Stress Symptoms Inventory ; The Coping with Job Stress Scale Brazilian version; Inventário de Habilidades Sociais</p>	<p>Both interventions improved coping strategies; perceived stress; immunity; interpersonal relations; social skills.</p>	<p>Assertiveness; Coping</p>

Table 3. Continuation.

<p>Murta and Tróccoli (2007), Brazil</p>	<p>Quasi-experimental design, between subjects, T0 (pre-test), T1 (post-test), data gathering group: 3 (120-minute) non-structured group interviews, intervention group: 12 (90-minute) weekly group sessions. To implement and evaluate the effects of an occupational stress management intervention for firemen.</p>	<p>Total N = 22, Data gathering group: N=15 (M=*, F=*)/Mean age =* (*-*); Intervention group: N = 7 (M = 6, F = 1)/Mean age =* (22-35)</p>	<p><i>Estudos de Psicologia, Portuguese</i></p>	<p>Stress; general health; assertiveness; coping strategies; problem-solving skills; time management; cognitive restructuring; blood pressure; immunity.</p>	<p>Qualitative non-structured interview; Inventário de sintomas de stress para adultos; The Latack Coping Strategies Scale, Brazilian version; Genaral Health Questionnaire-60 (GHQ-60)</p>	<p>Improved: self-efficacy; diastolic blood pressure; somatic symptoms; decreased: stress.</p>	<p>Assertiveness; Coping.</p>
<p>Murta and Tróccoli (2004), Brazil</p>	<p>Quasi-experimental design, within subjects, 24 (40-minute) sessions every fortnight. To evaluate levels of satisfaction and dissatisfaction with a Cognitive-Behavioural Model programme for stress reduction of hospital workers.</p>	<p>N = 210, 65% Females/Mean age = 33 (*-*)</p>	<p><i>Psicologia: Teoria e Pesquisa, Portuguese</i></p>	<p>Stress; life style; self-esteem; self-efficacy; goal-setting; time management; problem-focused and emotion-focused coping; relaxation; cognitive restructuring; empathic skills; assertiveness. Social skills</p>	<p>Qualitative semi-structured assessment</p>	<p>Sources of satisfaction: techniques and instruments used in the intervention; topics discussed; social support; social skills acquisition; problem-solving; positive feelings; Sources of dissatisfaction: short length of sessions.</p>	<p>Assertiveness; Coping; Empathy</p>
<p>Pinheiro <i>et al.</i> (2006), Brazil</p>	<p>Quasi-experimental design, within subjects, T0 (pre-test), T1 (post-test), 11 (1.5 hour) group sessions. To evaluate a social skills educative training for parents of children with behavioural problems.</p>	<p>N = 34 (M = 2, F = 32)/Mean age = 35,16 (*-*)</p>	<p><i>Psicologia: Reflexão e Crítica, Portuguese</i></p>	<p>Social skills</p>	<p>Qualitative self-assessment questionnaires; Questionário de Situações Domésticas (QSD); Inventário de Comportamentos Inoportunos (QCI); qualitative video performance assessment.</p>	<p>Improved: Mother-child relations; children maladaptive behaviours.</p>	<p>Assertiveness; Empathy</p>

Table 3. Continuation.

<p>Pivaral <i>et al.</i> (2015), Mexico</p>	<p>Quasi – Experimental Design, within subjects./ Assessment of a psycho-educative intervention to reduce Burnout Syndrome in the workplace.</p>	<p>N = 29 (M = 14, F = 15)/Mean age = 31.5 (*,*)</p>	<p><i>Salud Mental</i>, Spanish</p>	<p>Burnout</p>	<p>Maslach Burnout Inventory Scale; Socio-demographic questionnaire</p>	<p>Increased: personal resources to deal with work demands; social interaction personalization (empathic skills, sensitivity); self-care; decreased: emotional exhaustion; frustration; dissatisfaction.</p>	<p>Coping; Empathy</p>
<p>Pureza <i>et al.</i> (2012), Brazil</p>	<p>Quasi-experimental design, within subjects, T0 (pre-test), T1 (post-test), T2 (120minute) weekly group sessions./To present and evaluate a social skills training intervention for university students with social anxiety or social phobia.</p>	<p>N = 22, 27% Males, 73% Females/ Mean age = 27,05 (17-50)</p>	<p><i>Revista Brasileira de Terapias Cognitivas</i>, Portuguese</p>	<p>Social anxiety; Social phobia.</p>	<p>Questionário de Ansiedade Social para Adultos (CASO-A30); Liebowitz Social Anxiety Scale; Beck Scales (BDI, BAI); Adult Self-Report (ASR)</p>	<p>Improved: social anxiety; unexpected results: high dropout rates within severe anxiety individuals.</p>	<p>Assertiveness; Empathy</p>
<p>Rocha <i>et al.</i> (2013), Brazil</p>	<p>Between subjects experimental design, T0 (Pre-test), T1 (post-test), T2 (follow-up), 28 (2-hour) group sessions for 6 months./ To evaluate the effects of a social skills educational programme for mothers of ADHD children.</p>	<p>N = 16 (M =*, F = 16), Mean age = 40,43 (28-60)</p>	<p><i>Acta Comportamental</i>, Portuguese</p>	<p>Communication skills; civility; assertiveness; positive monitoring; ability to establish educational context; discipline.</p>	<p>Inventário de Habilidades Sociais – IHS; The Social Skills Rating SysTem (SSRS); Qualitative video performance assessment; Social skills questionnaire</p>	<p>Improved: social skills in mothers; attention to children behaviours; interactions between mother-child and children; expression of positive feeling at T1; academic and social skills in children (7-12 yrs of age).</p>	<p>Assertiveness; Coping; Empathy</p>

Table 3. Continuation.

Toledo <i>et al.</i> (2011), Cuba	Quasi-experimental mixed design (qualitative-quantitative), T0 (Pre-test), T1 (post-test), 8 (60-minute) weekly group sessions./To design and evaluate the effects of a programme intervention to improve anxiety and emotional regulation of working labours at Policlínico Previsora in Camagüey city.	N = 60 (M =*, F =*)/Mean age =* (18-55)	--	Anxiety; assertiveness; coping skills; emotional regulation; problem-solving skills.	Escala de Ansiedad de Rasgo-Estado de Spielberger (IDARE); Anxiety Situations and Responses Inventory-Brief (ISRA-B)	Improved: anxiety levels; emotional well-being.	Assertiveness; Coping
Vera-Villarroel <i>et al.</i> (2005), Chile	Quasi-Experimental design, within subjects, T0 (pre-test), T1 (post-test), 5 (4-hour) group sessions for 1 week./To evaluate the effectiveness of a brief behavioural intervention for the management of emotional states of teachers.	N = 10 (M =*, F = 10)/Mean age = 30 (*-*)	<i>Acta Colombiana de Psicología</i> , Spanish	Depression; anxiety; assertiveness; optimism.	Inventario de Depresión de Beck; Escala de ansiedad estado/rasgo de Spielberger (STAI); El test de orientación vital (LOT); Inventario de asertividad de Rathus (RAS)	Improved: assertiveness; no significant results for optimism decreased: depression; anxiety.	Assertiveness; Optimism
Quiceno <i>et al.</i> (2011), Colombia	Quasi-experimental design, within subjects (study 1)/between subjects (study 2)./To evaluate the effectiveness of a brief intervention fostering resilience in chronically ill patients (rheumatoid arthritis).	N = 76 (M = 5, F = 71) / Mean age = 57,05 (*-*)	<i>Revista de Psicología y Psicología Clínica</i> , Spanish	Resilience; self-transcendence; health-related quality of life; illness perception; social support; affective state.	Resiliencia scale; Self-transcendence scale; Health Survey SF-36; Brief Illness Perception Questionnaire (IPQ-B); Social Support 2 single items (network size/perceived support); Affective State Visual Analogue State	Improved: positive emotional state; resilience; self-transcendence; quality of life; perceived social support.	Assertiveness; Gratitude; Resilience

down for methodology quality is shown in Table 1. Only two studies (Murta and Tróccoli, 2009; Pinheiro *et al.*, 2006) reported clear in the text whether the loss of participants and/or the data lost was correctly addressed, or at least that the quality of the data had been reviewed before statistical analysis. All studies reported results in line with the objectives proposed, despite seven studies having reported the variables of interest for this review as secondary outcome measures (e.g., Borges and Seidl 2014; Coelho and Murta, 2007; Cuadra-Peralta *et al.*, 2012; Murta and Tróccoli, 2009; Pivaral *et al.*, 2015; Pureza *et al.*, 2012; Rocha *et al.*, 2013). The majority of studies published achieved good standards in terms of methodology quality.

Bias assessment: Participants' characteristics, gender, age and/or socioeconomic status

Although the studies compiled in this review were drawn from samples of a diverse cultural background including countries like Brazil, Colombia, Mexico, Chile and Cuba, the predominant target population identified amongst the studies was workers/labourers (Murta and Tróccoli, 2009; Pivaral *et al.*, 2015; Toledo *et al.*, 2011), including teachers (Vera-Villaruel *et al.*, 2005), firemen (Murta and Tróccoli, 2007), hospital staff (Murta and Tróccoli, 2004) and carers of demented people (Espín-Andrade, 2009). For those, the variables of interest manipulated in intervention programmes include Assertiveness, Coping, Empathy and Optimism. Out of the remaining studies reviewed there were three interventions for parents of children with cognitive or behavioural problems (Coelho and Murta, 2007; Pinheiro *et al.*, 2006; Rocha *et al.*, 2013), aimed to improve Assertiveness, Coping and/or Empathy; two for elderly people (Borges and Seidl, 2014; Cuadra-Peralta *et al.*, 2012), aiming to positively impact on Assertiveness, Empathy, Forgiveness, Gratitude and/or Optimism; one intervention for Rheumatoid Arthritis patients (Quiceno *et al.*, 2011), focusing on Assertiveness, Gratitude and Resilience; one for abused women (Cruz-Almanza *et al.*, 2006), to improve Assertiveness and Coping; and one intervention programme for students with social anxiety and social phobia (Pureza *et al.*, 2012), which aimed to but did not present significant results for Assertiveness or Empathy. Also in terms of participants' char-

acteristics, 46.6% (seven studies) reported to have included at least 30 participants to compose the sample (Cruz-Almanza *et al.*, 2006; Cuadra-Peralta *et al.*, 2012; Murta and Tróccoli, 2004, 2009; Pinheiro *et al.*, 2006; Quiceno *et al.*, 2011; Toledo *et al.*, 2011). The lowest number of participants identified in a study was N=7 (Coelho and Murta, 2007), in a group training programme to promote Coping and Empathy. Conversely, the highest sample described in a study included N=210 participants (Murta and Tróccoli, 2004) in a Cognitive-Behavioural Model programme to improve Assertiveness, Coping and Empathy.

There was an observed trend in results for gender where no study in this review seemed to have accounted for gender differences (counterbalance the number of male and female participants) and only seven intervention programmes (Coelho and Murta, 2007; Murta and Tróccoli, 2004, 2007; Pinheiro *et al.*, 2006; Pivaral *et al.*, 2015; Pureza *et al.*, 2012; Quiceno *et al.*, 2011) were delivered to a mixed sample. Of those, the number of female participants (N=277) outstood males (N=108) by more than double, and the variables of interest manipulated included Assertiveness, Coping, Empathy, Gratitude and/or Resilience as primary or secondary outcome measures. Three programmes were specifically delivered for women (Cruz-Almanza *et al.*, 2006; Rocha *et al.*, 2013; Vera-Villaruel *et al.*, 2005) (N=76), aiming to improve Assertiveness, Coping, Empathy and/or Optimism, whereas one intervention programme specific for men (Borges and Seidl, 2014) (N=13) focused on Assertiveness and Empathy. Five studies (Cuadra-Peralta *et al.*, 2012; Espín-Andrade, 2009; Murta and Tróccoli, 2007, 2009; Toledo *et al.*, 2011) failed to provide information of participant's gender, including the variables Assertiveness, Coping, Gratitude, Forgiveness and Optimism. Participants' ages in the reviewed papers ranged between 17 and 82 years of age for mixed sample designs. Within the intervention programmes delivered to female participants, age ranged from 25 to 60, whereas to males age ranged from 62 to 78. On the whole, only one study did not provide details of sample Mean age (Espín-Andrade, 2009).

The majority of participants included in the studies were identified as low to middle socioeconomic status (SES). Interventions were conducted in university settings (Borges and Seidl, 2014; Coelho and Murta, 2007; Murta and Tróccoli, 2009; Pureza *et al.*, 2012),

community centres (Cruz-Almanza *et al.*, 2006; Cuadra-Peralta *et al.*, 2012), schools (Pinheiro *et al.*, 2006; Rocha *et al.*, 2013; Vera-Villarroel *et al.*, 2005), hospital setting (Murta and Tróccoli, 2004), health centres (Espín-Andrade, 2009; Toledo *et al.*, 2012; Quiceno *et al.*, 2011) and government workplaces (Murta and Tróccoli, 2007; Pivaral *et al.*, 2015).

Time frame choice for assessing outcomes and lasting effects

Intervention programmes duration varied expressively amongst the reviewed studies ranging from one week to a one-year period (see Table 2). Eight studies utilized quantitative design in which programmes lasted from 1-18 weeks. Of those, six studies included pre-test – post-test evaluations and reported post-test at: 18 weeks (Cruz-Almanza *et al.*, 2006) and at eight weeks (Toledo *et al.*, 2011) to improve Assertiveness and Coping; at ten weeks (Pureza *et al.*, 2012) for Assertiveness and Empathy; at one week (Vera-Villarroel *et al.*, 2005) in a brief intervention to improve Assertiveness and Optimism; and at six weeks in two interventions, one to promote Assertiveness, Gratitude and Resilience (Quiceno *et al.*, 2011), and another to improve Forgiveness, Gratitude and Optimism (Cuadra-Peralta *et al.*, 2012). Overall, all variables of interest for this review (Assertiveness, Coping, Empathy, Forgiveness, Gratitude, Optimism and Resilience) were covered by different quantitative designs.

Of the six qualitative studies assessed, intervention lengths ranged between nine weeks to six months, including the variables Assertiveness, Coping and Empathy. Post-test assessments in qualitative designs were reported in only four studies at: six months (Rocha *et al.*, 2013) in an intervention to improve Assertiveness, Coping and Empathy; at 12 weeks (Murta and Tróccoli, 2007) for Assertiveness and Coping; and at four months (Borges and Seidl, 2014), and at 11 weeks (Pinheiro *et al.*, 2006) in different interventions to promote Assertiveness and Empathy. One qualitative study to improve Assertiveness and Coping for caregivers of demented elderly people (Espín Andrade, 2009) did not provide information of intervention length and/or long-term main effects. The most enduring programme reviewed (Murta and Tróccoli, 2004) presented a mixed design (qualitative-quantitative) and lasted for 48 weeks to

improve hospital workers' Assertiveness and Coping skills. The results reported by this study include participants' levels of satisfaction and dissatisfaction with the intervention, thus lacking evidence of outcome variables and intervention main effects.

Out of the only four studies reviewed that reported follow-up assessment for long-term effects, a social skills educational programme for mothers of ADHD children (Rocha *et al.*, 2013) did not state follow-up length and was found to improve Assertiveness, Coping and Empathy at T2. A psycho-education intervention to promote Assertiveness and Empathy in elderly males (Borges and Seidl, 2014) reported follow-up at four months with lasting effects for both variables in only 31% (N=4) of participants. A brief intervention for Assertiveness, Gratitude and Resilience in chronically ill patients reported lasting effects for Resilience at three months (Quiceno *et al.*, 2011), whereas a CBT intervention for abused women reported follow-up at three, six and 18 months, focusing on Assertiveness and Coping (Cruz-Almanza *et al.*, 2006). Results for this intervention showed improvements in coping strategies at T2 (three months), T3 (six months) and T4 (18 months), and in Assertiveness at T1 (post-test), T2 (three months) and T3 (six months).

Standardized instruments most frequently selected as outcome measure and sensitivity to change after program delivery

The most commonly used instruments reported in the reviewed papers for the assessment of each variable, as well as instruments' sensitivity to detect changes are described in Table 3. The instruments were classified according to the type of outcome they were subject to measure, and sensitivity effects identified at post-test and at follow up assessments.

It is worth noting that the only instrument used to evaluate Optimism was the Life Orientation Test (LOT) (Scheier *et al.*, 1994, in Vera-Villarroel *et al.*, 2005). Likewise, Resilience was measured by the Resilience Scale (RS) (Wagnild and Young, 1993 in Quiceno *et al.*, 2011). No study reported to have made use of valid and/or reliable instrument to measure Gratitude or Forgiveness, and the assessment of these outcome variables were based on qualitative methods. Three instruments (*Inventário de Habilidades Sociais*; Child Behavior

Checklist – CBCL; Maslach Burnout Inventory Scale) were utilized to measure more than one variable of interest across different studies. Those were the *Inventário de Habilidades Sociais* for the assessment of Assertiveness (Murta and Tróccoli, 2009) and Empathy (Rocha *et al.*, 2013); the Child Behavior Checklist – CBCL to assess Coping (Coelho and Murta, 2007) and Empathy (Coelho and Murta, 2007); and the Maslach Burnout Inventory Scale was also used to evaluate Coping and Empathy (Pivaral *et al.*, 2015). Only two studies carried out evaluations of reliability levels (Cronbach Alpha) of instruments chosen to ensure internal consistency at the time of the study and for that particular sample (Quiceno *et al.*, 2011; Rocha *et al.*, 2013).

In a similar manner only three studies out of 15, reported the reliability of the instruments within the sample of the intervention. Likewise, only six out of 15 measures were able to detect change after intervention (i.e., The Assertion Inventory; Rathus Assertiveness Schedule; Social Skills Rating System; The Birmingham Coping Inventory; *Inventário de Habilidades Sociais*; Resilience Scale).

Discussion

Considering the impact of EBPP for long-term public healthcare decisions, allocation of resources and personnel, the limited number of programme interventions studies (i.e., 10) included in this review that carried out internal rigorous manipulation checks (assessment at baseline and post-intervention) for programme efficacy leads to the conclusion that, there is lacking evidence to support the effects of Psychological programmes implemented to promote human strengths in Latin America. In a similar manner, a common rule for the assessed papers was lack of follow-up assessment (included in only four studies), which conceals the real power to detect intervention effects in the long-term and/or intervention efficacy. In this case, conclusions regarding interventions' in this review are drawn from the few studies that included pre-test – post-test (ten studies) and follow-up evaluations (four studies). The overall picture, at present, indicates that strength-based intervention programmes implemented in Latin America would benefit from more structured methodological procedures, including strict outcome measure analysis, also stating clear which variable(s) has/have presented expected or unexpected signif-

icant changes following programmes' implementation and final assessments.

The same applies to detected significant results other than the ones predicted by programmes' main objectives. That is, studies should make clear any significant changes due to interaction effects from primary outcome measures, resulting in unexpected significant results for secondary outcome measures, which was a common trait amongst the evaluated studies. Yet the sum of evidence compiled from the reviewed studies indicate that 73.3% of programmes evaluated aimed to improve Assertiveness, 46.6% Coping, 40% Empathy, 13.3% of programmes addressed Gratitude and Optimism and 6.6% included Forgiveness and Resilience as outcome variables. Nevertheless, without rigor at baseline and subsequent assessments (including specific cutting-points for follow-up studies) based on guidelines for programme's efficacy, it is not feasible to point out the extent to which interventions managed to achieve their proposed objectives.

Additionally, the studies reviewed presented different degrees of research design quality. The majority of studies did not achieve criteria for well-established treatments according to the American Psychological Association guidelines (APA, 2002) (i.e. required two studies or more using between subject design, done by different researchers in order to demonstrate the superiority of the treatment under study to a placebo, or a different treatment, OR its equivalence in outcome to another established empirically supported treatment). That is, two experimental studies demonstrating superiority to no treatment or alternative treatments OR equivalence of the evaluated treatment outcome to an empirically supported treatment. Such treatments employed must also be manualized to allow replication in different settings. All the mentioned treatment guidelines were violated or absent in the published papers included in this review. Thus, based on APA guidelines (APA, 2002) for treatment control and implementation, design quality or the assessed papers generally remained unsatisfactory.

Also in terms of empirical quality, none of the studies reviewed controlled effects by gender, age or participants' SES over the results. In that, high levels of gender/age disparity resulted in strength-based programmes being predominantly delivered to female participants, aged from 25 to 60, for the variables Assertiveness, Coping, Empa-

thy, Gratitude, Resilience and/or Optimism. As well as inferred unsuitable control of sampling methods, the high index of female participants detected across studies could have also been due to the fact that women are known to be more compliant with treatments and more likely to seek help, whereas men tend to generally be more resistant to adopt a support-seeking role (Sarafino and Smiths, 2014). Recent findings in this direction indicate that self-reliance, as well as traditional masculinity, may function as mediating variables for men look after their health, keep regular attendance to physician, adhere to treatment and health promoting behaviours (Murray-Law, 2011). Once male participants were underrated in the majority of studies, health providers should bear in mind the extent of influence of additional psychological and cultural variables that could go against and prevent individuals from, primarily identifying their need of assistance, and, ultimately take part in health-related intervention programmes. This concern should be accounted for in the design process of programmes, also considering which variables should be more appropriately addressed for a 'male-oriented programme', and methodological processes of sampling selection. This may help reduce the likelihood of leaving out those participants who might need the most. With regard to the programmes reviewed delivered to male participants, the variables worked included Assertiveness, Coping, Empathy, Gratitude and Resilience for a sample aged 62 to 78. However, taking the number of studies that failed to inform participants' gender and/or age (overall six studies), generalization of results is very limited.

In a similar manner, the majority of papers covered samples of low to middle SES, nonetheless, mostly comprised of employed individuals. That is, participants that presented some degree of social interactions and/or socioeconomic security. Put another way, despite being classified as low-middle SES, this sample (employed individuals) may present advantages when compared to retired, or unemployed participant samples (Talbot, 2009). The latter tend to, for instance, lack or perceive reduction in socioeconomic stability, social interactions/support, present reduced autonomy and increased levels of anxiety and depression, all of which result in being a more at risk (high vulnerability) population (Goldman-Mellor, 2015). At present, interpretations

in this review also suggest insufficient number of programmes being delivered to more vulnerable populations such as unemployed or even retired individuals, and people who live in peripheral areas and do not have access to social mechanisms (community or health centres, main hospitals, universities, etc).

Extrapolating from the results, thus, it is possible to identify considerable bias in the delivery of strength-based programmes, with less emphasis being given to the promotion of health via intervention programmes to those unable to access health services or take part in interventions sponsored by workplaces. It is also true that healthcare providers and services should invest in the dissemination of education for health practices (Albee, 1982; Zimmerman, 2004) via manualized (standardized) interventions, allowing widespread replication and diffusion of health knowledge/information, in order to reach ample spheres of society. This would include those kept apart from mainstream centres, or those who do not have means to participate in health interventions otherwise.

In terms of quality of outcome measures presented by each study, only five variables of interest for this review (Assertiveness, Coping, Empathy, Optimism and Resilience) were evaluated by means of standardized instruments. Researchers are prioritizing ad hoc instruments (or qualitative observations) over proper validated measures. However, one should note the importance of having validated and reliable instruments for the assessment of subjective constructs in Psychological science (Carretero-Dios and Pérez, 2007). In this perspective, the selection criteria for instruments utilized across studies were not fully detailed. In that, the reliability level (e.g., Cronbach's alpha) of the target measurements utilized was omitted in various studies, as well as missing evaluations (not carried out) for internal consistency of instruments at the time of the study, and for that particular sample. This may hamper conclusions on the adequacy of instruments chosen to evaluate different variables of interest in the reviewed studies. Hence, positive changes in outcome variables reported following intervention programmes that were assessed by means of unreliable instruments, should be interpreted carefully. An optimistic take on this would be to accept that the majority of studies reported significant changes for at least one variable,

whereas a realistic take would also concern the inflation of Type I error due to inadequate measurement as opposed to interventions' efficacy (Shaughnessy *et al.*, 2012).

Thus, much of the reported studies would be considered pilot or feasibility studies, however continuity of the studies was not found. Researchers must persevere in replicating and perfecting interventions. A single study does not allow practitioners to believe in the efficacy of interventions, and even less credibility may be given to effectiveness claims. The identified studies would be much more properly labelled as pilot or even feasibility studies, as opposed to trials to infer the efficacy or effectiveness of interventions (Bowen *et al.*, 2009; Lancaster, 2015). Researchers within Latin America should consider in more detail the guidelines for intervention development and outcome assessment. As a limitation of the present review is the possible risk of bias assessment, once the processes of data selection and evaluation was further checked by and independent researcher from the same institution as the first author. This could arguably result in a tendency to assess studies in a similar perspective/paradigm, narrowing the scope of critical judgements in terms of studies methodological quality and adequacy to be included in the review. Future investigations could include a team of professionals from different health spheres, and/or also different approaches in Psychology.

To conclude, despite the methodological limitations identified in the reviewed studies, it is important to note that strength-based intervention programmes are generally reported to result in increased levels of life satisfaction and emotional well-being (Cuadra-Peralta *et al.*, 2012), satisfaction with the intervention itself (Murta and Tróccoli, 2004) and social interactions (Espín-Andrade, 2009; Murta and Tróccoli, 2009), all as positive side-effects of participation. Through the results from this review it is highlighted caution in designing methodologically viable programmes, including explicitly benefits and risks analysis (APA, 2002), the main objectives expected to be achieved and: (a) for which outcome variables; (b) for which target population; (c) what outcome measures be used, followed by empirical support for this decision; (d) introduce baseline, post-test and follow-up assessment as a norm, to allow inference of interventions efficacy in the long-term; and (e) provide instruction manu-

als or guides, so that others may implement the programme in different settings, and for different samples; (f) state suggestions and future indications for prospective research and practice in the fields; would all be valuable contributions for the implementation of strength-based programmes interventions in Latin America.

As an additional challenge is the need to design cultural-sensitive intervention programmes that contemplate individuals who do not necessarily fit in the 'normal' plot. In other words, designing strength-based programmes addressed and sensitive to marginalized, peripheral individuals, who in the majority of cases end up being deprived from participation due to not having access to health services, not being part of the productive sphere of society (not employed or active labours), or social mechanisms in workplaces at all. This was also true for the absence in literature of strength-based programmes being delivered to same sex couples in Latin America. Thus, taking the cultural and socioeconomic reality in Latin America, at present, cultural-specific sensitivity, along with methodological rigor during the design, implementation and posterior outcome evaluations of health intervention programmes may be highlighted as a must for an incipient evidence-based Psychological science in Latin America.

Acknowledgements

This study was partially funded by The Brazilian National Counsel of Technological and Scientific Development (CNPq) through the doctoral grant to the author.

A kind thanks and appreciation to the independent researcher, who contributed to methodological enrichment of this article.

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Submetido: 28/07/2016

Aceito: 13/10/2016