

## Systematic Review about Personal Growth Initiative

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**Título:** Revisión Sistemática sobre Iniciativa de Crecimiento Personal.

**Resumen:** El presente estudio busca realizar una revisión sistemática de publicaciones acerca de la iniciativa de crecimiento personal. Se realizó una revisión de literatura en las bases de datos Bireme, Index Psi, LILACS, PePSIC, Pubmed - Publisher's Medline, Wiley Online Library, PsycINFO, OneFile, SciVerse ScienceDirect, ERIC, Emerald Journals, PsycARTICLES - American Psychological Association, Directory of Open Access Journals - DOAJ, SAGE Journals, SpringerLink, PLoS, IngentaConnect, IEEE Journals & Magazines y SciELO. La revisión de la literatura se realizó a partir de diciembre de 2014 a enero de 2015, sin estipular límites de fecha para la publicación de los artículos. De los 53 estudios hallados, se excluyeron 7 y se analizaron 46. Los estudios se enfocaron en investigar las propiedades psicométricas de la escala iniciativa de crecimiento personal y de iniciativa de crecimiento personal escala II. Las relaciones de crecimiento personal iniciativa y otros constructos también fueron evaluados. Además, los estudios investigaron el impacto de las intervenciones para promover la iniciativa de crecimiento personal. Los resultados de estos estudios mostraron que iniciativa de crecimiento personal se relaciona positivamente con los niveles de bienestar, la autoestima y otras dimensiones positivas, y negativamente con la ansiedad, depresión y otros factores negativos.

**Palabras clave:** Iniciativa de crecimiento personal; evaluación; bienestar; revisión de literature.

**Abstract:** The present study aimed to realize a systematic review of publications about personal growth initiative. A literature review was realized in Bireme, Index Psi, LILACS, PePSIC, Pubmed - Publisher's Medline, Wiley Online Library, PsycINFO, OneFile, SciVerse ScienceDirect, ERIC, Emerald Journals, PsycARTICLES - American Psychological Association, Directory of Open Access Journals - DOAJ, SAGE Journals, SpringerLink, PLoS, IngentaConnect, IEEE Journals & Magazines and SciELO databases. The literature review was performed from December of 2014 to January of 2015, without stipulating date limits for the publication of the articles. It was found 53 studies, excluded seven, and analyzed 46 researches. The studies aimed to investigate the psychometric properties of personal growth initiative scale and personal growth initiative scale II. The relations of personal initiative growth and others constructs were also evaluated. Furthermore the studies investigated the impact of interventions to promote personal growth initiative. Results of these studies showed that personal growth initiative was positively related to levels of well-being, self-esteem and others positive dimensions, and negatively to anxiety, depression and others negative factors.

**Key words:** Personal growth initiative; assessment; well-being; literature review.

### Introduction

Throughout life, individuals are likely to experience challenging, adverse situations that require changes in the way they interact with others and handle various quotidian situations. Changes developed by people can be caused by external factors (e.g., job promotion) or can be changes caused by the individual (e.g., completing a post-graduate course). These changes may require those involved to adapt to a new context, interact with others differently, and use appropriate coping strategies to manage these new demands (Robitschek, 1997).

The process of change intentionally developed by individuals are recognized as personal growth initiative (PGI). Personal growth initiative can be understood as the active and intentional involvement of the individual in their personal growth process (Robitschek, 1998). Personal changes originating from PGI can be realized in the different life domains of individuals, occurring in the affective, cognitive and behavioral dimensions (Robitschek, 2003). Thus, the ability to identify and make personal changes that promote the positive development of individuals, when their living conditions change (e.g., birth of a child, job promotions,

marriage), constitutes personal growth initiative (Robitschek, 1998).

Personal growth initiative comprises one of the dimensions of psychological well-being (Ryff & Keyes, 1995). Psychological well-being refers to positive or optimal psychological functioning, composed of the dimensions self-acceptance, positive relations with others, autonomy, environment mastery, purpose in life, and personal growth (Ryff & Keyes, 1995; Villaceros, Serrano, Bermejo, Magaña, & Carabias, 2014). In addition to composing a dimension of psychological well-being (Ryff & Keyes, 1995), PGI can be comprehended as a personal resource, as it encompasses a set of skills that contribute to making changes that promote positive development in people (Weigold & Robitschek, 2011). Personal resources can be comprehended as the skills and positive evaluations of the individual regarding their ability to control and produce an impact on their environment. These resources are intrinsic and are characterized as independent dimensions, which are not fixed, can be developed and are influenced by changes in the environment. Thus, PGI as a personal resource refers to the individual skills that promote the development of intentional personal changes, consciously planned by the people who perform them (Weigold, Porfeli, & Weigold, 2013; Weigold & Robitschek, 2011).

The intentionality and consciousness present in the PGI processes are the characteristics that differentiate it from processes of unintended and unconscious personal changes

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(Robitschek, 1998; Weigold et al., 2013a). The processes of personal change can be categorized as unconscious and unintentional processes, conscious and unintentional processes, and conscious and intentional processes, such as PGI (Robitschek, 1998).

The processes of unconscious and unintentional change and of conscious and unintentional change usually result from environmental pressures, which also enable personal growth, although this is not intentional. In the process of unconscious and unintentional change, subjects may not be aware of what motivated their personal changes, or how they chose to assume new forms of interaction with other people. In the process of conscious and unintentional change individuals recognize the need for change, however have little control over how this process of change occurs (Robitschek, 1999). The distinction between unintended conscious and unconscious processes and PGI is important, as the processes of unintentional personal growth are negatively related to people's indices of well-being and to their positive development. The PGI process, in turn, is positively associated with increased levels of well-being and to the positive development of individuals (Robitschek, 1999).

In order to investigate PGI, Robitschek (1998) developed the Personal Growth Initiative Scale (PGIS). The development of this questionnaire was conducted with a sample of participants of a PGI promotion course. The PGIS presented an unidimensional structure, composed of nine items that evaluate personal growth through a six-point Likert scale, ranging from definitely disagree to definitely agree. The instrument presented satisfactory psychometric properties (Robitschek, 1998).

Despite the adequate factor structure, temporal stability, and convergent validity of the PGIS, this instrument does not investigate the different dimensions of PGI (e.g., cognitive and behavioral). As a result, Robitschek et al. (2012) developed the Personal Growth Initiative Scale - II (PGIS-II), which constituted a new multifactorial version of the PGIS. The PGIS-II consists of 16 items, divided into the following four factors: readiness for change; planfulness; intentional behavior; and using resources.

According to the proposition of Robitschek et al. (2012), PGI is composed of a cognitive dimension, recognized in the "Readiness for change" and "Planfulness" factors, and a behavioral dimension, identified in the "Using Resources" and "Intentional Behavior" factors. The "Readiness for Change" refers to the ability of the individual to identify or create situations with the potential to promote personal growth. The "planfulness" factor can be comprehended as a person's ability to organize strategies to facilitate their personal development. The "Intentional Behavior" factor, in turn, evaluates the disposition and personal motivation to achieve the goals established for personal change. The "Using Resources" factor covers the use of personal and external resources (e.g. help from others) in the promotion of personal growth (Robitschek et al., 2012). This is the only factor of PGI that encompasses the interpersonal dimension

of individuals, which relates differently with the other factors of PGI (Robitschek et al., 2012; Weigold et al., 2013a).

Individuals who have high levels of the readiness for change, planfulness, intentional behavior, and using resources dimensions of PGI may have a greater potential to identify or create opportunities that enable and intensify their positive personal development (Robitschek & Kashubeck, 1999). People with high levels of PGI adapt better to different situations, overcome stressful situations, have higher levels of life satisfaction, and seek appropriate solutions to the situations faced (Loo, Tsai, Raylu, & Oei, 2014; Robitschek et al., 2012; Weigold et al., 2013a). High PGI indices are also positively related to positive affect and negatively to anxiety, depression and negative affect (Hardin et al., 2007; Robitschek & Kashubeck, 1999; Robitschek & Keyes, 2009).

A lack of PGI skills is associated with a negative impact in people's lives. It has been observed that low levels of PGI are related to difficulties in adapting to new contexts, so that those involved experience higher levels of stress and anxiety and lower levels of life satisfaction (Stevic & Ward, 2008; Weigold & Robitschek, 2011; Yakunina, Weigold, & Weigold, 2013; Yakunina, Weigold, Weigold, Hercegovac, & Elsayed, 2013). Difficulties in identifying opportunities for personal growth are also associated with the adoption of ineffective coping strategies, such as the prevalent use of emotion-focused coping strategies rather than the use of problem-focused strategies (Weigold & Robitschek, 2011).

The positive impact of PGI on the levels of well-being experienced by people, as well as its role in positive development, exposes the relevance of comprehending this construct in depth. For this reason, a systematic literature review was performed, with the aim of analyzing studies that investigate the relationship of PGI with other psychological variables, as well as the instruments used to evaluate PGI.

## Method

A systematic literature review related to the PGI concept was performed, without stipulating date limits. A total of 19 databases were consulted (Bireme, Index Psi, LILACS, PeP-SIC, Pubmed - Publisher's Medline, Wiley Online Library, PsycINFO, OneFile, SciVerse ScienceDirect, ERIC, Emerald Journals, PsycARTICLES - American Psychological Association, Directory of Open Access Journals - DOAJ, SAGE Journals, SpringerLink, PLoS, IngentaConnect, IEEE Journals & Magazines, and SciELO), present in the CAPES Journals portal. The descriptor used in the search was "personal growth initiative" in English, Portuguese (*iniciativa ao crescimento pessoal*), and Spanish (*iniciativa para el crecimiento personal*). The descriptor had to be present in the abstract or body of the text. The study selection criteria were: empirical study; published in a peer-reviewed journal; and written in Portuguese, English or Spanish. No literature review studies were included in this search, since the aim of

this study was to find scales and empirical studies about PGI. Similarly, studies published in books, book chapters, dissertations and theses were not included, due to the possible difficulties in accessing the material in its entirety. All procedures cited above were realized from December of 2014 to January of 2015.

## Results

A total of 53 studies were encountered, seven were eliminated, and 46 studies involving the PGI construct were analyzed. Among the seven studies eliminated one referred to a book and the other six to dissertations and theses. The 46 articles encountered were published in English. There was an increase in publications over time, especially since 2007 (see Figure 1). The full references of the included studies are highlighted with an asterisk (\*) in the reference list.

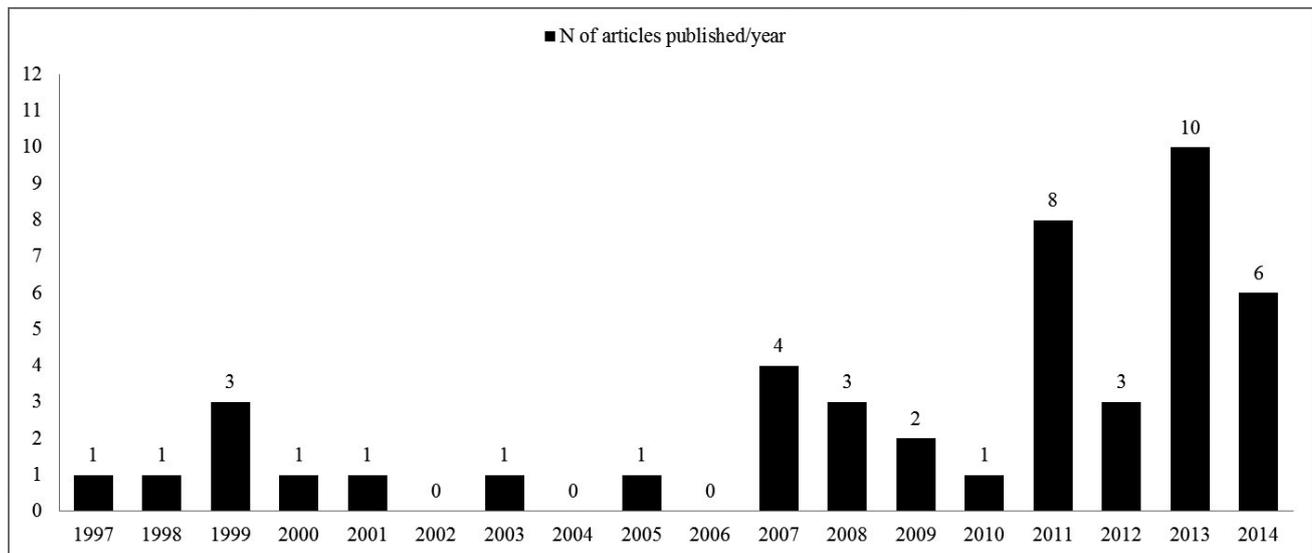


Figure 1. Articles published about the construct of personal growth initiative between 1997-2014.

Among the studies, nine investigated the psychometric properties of the scales used to evaluate PGI, two of which used the PGIS and seven the PGIS-II. The relationships of PGI with external variables were the focus of 34 studies, of which 28 used the PGIS, five applied the PGIS-II, and one

was a qualitative study. Finally, three studies used PGI to verify the impact of interventions (see Table 1). In order to detail these results, these topics and the studies that comprise them, are shown separately.

Table 1. Characteristics of the articles analyzed.

Authors /Year of Publication	Instrument	Sample	Country
Robitschek, 1997	PGIS	General Population	USA
Robitschek, 1998	PGIS	General Population	USA
Robitschek, 1999	PGIS	College Students	USA
Robitschek & Cook, 1999	PGIS	College Students	USA
Robitschek & Kashubeck, 1999	PGIS	College Students	USA
Bartley & Robitschek, 2000	PGIS	College Students	USA
Whittaker & Robitschek, 2001	PGIS	College Students	USA
Robitschek, 2003	PGIS	College Students	USA
Robitschek & Hershberger, 2005	PGIS	General Population	USA
Hardin, Weigold, Robitschek, & Nixon, 2007	PGIS	College Students	USA
Neff, Rude, & Kirkpatrick, 2007	PGIS	College Students	USA
Ogunyemi & Mabekoje, 2007	PGIS	College Students	Nigeria
Shorey, Little, Snyder, Kluck, & Robitschek, 2007	PGIS	College Students	USA
Kashubeck-West & Meyer, 2008	PGIS	General Population	USA

**Table 1.** Characteristics of the articles analyzed (continuation).

Authors /Year of Publication	Instrument	Sample	Country
Klockner & Hicks, 2008	PGIS	General Population	USA
Stevic & Ward, 2008	PGIS	College Students	USA
Borja & Callahan, 2009	PGIS	College Students	USA
Robitschek & Keyes, 2009	PGIS	College Students	USA
Negovan, 2010	PGIS	College Students	Romania
Barak & Achiron, 2011	PGIS	Patients with Multiple Sclerosis and Individuals Not Diagnosed for Multiple Sclerosis	Israel
Ivtzan, Chan, Gardner & Prashar, 2011	PGIS	College Students	England
Oluyinka, 2011	PGIS	College Students	Nigeria
Sharma, Garg, & Rastogi, 2011	PGIS	College Students	India
Sultan, 2011	PGIS	Patients Diagnosed with Depression and Patients Diagnosed with Diabetes	Pakistan
Vaingankar et al., 2011	PGIS	General Population	Singapore
Wang & Tien, 2011	PGIS	Workers	China
Weigold & Robitschek, 2011	PGIS	College Students	USA
Ayub & Iqbal, 2012	PGIS	College Students	Pakistan
Lasun & Odufowokan, 2012	PGIS	Workers	Nigeria
Robitschek et al., 2012	PGIS	General Population	USA
Bhattacharya & Mehrotra, 2013	Semi-structured interview	College Students	India
Sharma & Rani, 2013	PGIS - II	College Students	India
Thoen & Robitschek, 2013	PGIS - II	College Students	USA
Weigold et al., 2013a	PGIS - II	College Students	USA
Weigold, Weigold & Russell, 2013	PGIS - II	College Students	USA
Yakunina et al., 2013a	PGIS - II	College Students	USA
Yakunina et al., 2013b	PGIS - II	College Students	USA
Yalcin & Malkoc, 2013	PGIS - II	College Students	Turkey
Callahan, Borja, Herbert, Maxwell, & Ruggero, 2013	PGIS	College Students	Romania
Negovan & Bogdan, 2013	PGIS	College Students	USA
Bhattacharya & Mehrotra, 2014	PGIS - II	College Students	India
Loo et al., 2014	PGIS	General Population	China
Luyckx & Robitschek, 2014	PGIS - II	College Students	Belgium
Sharma & Rani, 2014	PGIS - II	College Students	India
Weigold, Weigold, Russell, & Drakeford, 2014	PGIS - II	College Students	USA
Yang & Chang, 2014	PGIS - II	College Students	China

**Psychometric Properties of the Personal Growth Initiative Scale (PGIS) and the Personal Growth Initiative Scale II (PGIS-II)**

The Personal Growth Initiative Scale (PGIS) was the first scale developed to evaluate PGI (Robitschek, 1998, 2003). This scale presents nine items in a unidimensional structure (Robitschek, 1998). The development study of the PGIS involved a sample of participants of a PGI promotion course. The final version of PGIS presented adequate internal consistency ( $\alpha = .90$ ) and fit indices for the unidimensional structure ( $\chi^2(27) = 61.5, p < .001, CFI = .95, NFI = .93$ ). Furthermore, the PGIS showed a test-retest reliability index of .74 after a period of two months (Robitschek, 1998).

Although the PGIS presented stability in the test-retest reliability evaluations with the North-American sample investigated by Robitschek (1998), the unidimensional structure of the PGIS was not observed in a sample of Mexican university students (Robitschek, 2003). The psychometric properties of the PGIS were evaluated among Mexican university students, due to cultural differences between the

European-American culture (i.e., individualist) and the Hispanic culture (i.e. collectivist) (Allik, & Realo, 2004). In this study, it was shown that the PGIS, when applied in Hispanic populations, presented improvement in the model fit indices when proposing a two-factor structure, compared to the unidimensional structure (Robitschek, 2003).

The Personal Growth Initiative Scale - II (PGIS-II) was developed in order to overcome the limitation of the PGIS in evaluating the multifactorial construct of PGI through a single-factor structure (Robitschek et al., 2012). The PGIS-II has 16 items, organized in the four factors that constitute PGI. The development study of the PGIS-II was conducted with a sample of psychology students.

The factor structure of the PGIS-II showed adequate fit indices  $s-\chi^2(330, n = 1.796) = 1356.70, p < 0.001; SRMR = 0.09; RMSEA = 0.07$  (90% C.I. = 0.07 – 0.08). In addition satisfactory test-retest stability indices were observed, ranging from 0.73 (using resources) to 0.81 (planfulness) (Robitschek et al., 2012). Despite the four-factor structure providing the best fit indices, the authors propose that the general PGI score can be obtained through the sum of the

four dimensions that compose the PGIS-II (Robitschek et al., 2012).

The study by Yakunina et al. (2013a) aimed to investigate the psychometric properties of the North-American version of the PGIS-II in a non-native population of the United States of America (USA). Non-native students of the USA attending North-American Universities were interviewed (Yakunina et al., 2013a). The findings corroborate the universality of the construct, as well as the comprehension of the four-factor construct of PGI (readiness for change, planfulness, intentional behavior, and using resources). The four-factor structure of the PGIS-II presented adequate fit indices ( $\chi^2(98, n = 386) = 353.22, p < 0.001$ ; CFI = 0.93; SRMR = 0.05; RMSEA = 0.08) (Yakunina et al., 2013a).

Another study that examined the psychometric properties of the PGIS-II in the USA verified the invariance of the scale regarding data collection methods. The results of data collected through paper and pencil questionnaires and through internet based questionnaires were compared (Weigold et al., 2013b). The findings of this study demonstrate the invariance of the PGIS-II in pen and paper and virtual collection methods, indicating that the two forms of data collection are effective for the evaluation of PGI (Weigold et al., 2013b).

Yang and Chang (2014) conducted an adaptation study for the Chinese version of the PGIS-II. In this study a sample of Chinese university students was analyzed. It was observed that the version of PGIS-II adapted to Mandarin presented adequate fit indices for the four-factor version ( $\chi^2(98, n = 927) = 816.90, p < 0.001$ ; CFI = 0.95; SRMR = 0.06; RMSEA = 0.07 (90% C.I. = 0.07 – 0.08)). The test-retest stability indices were also adequate, ranging from 0.70 (readiness for change) to 0.90 (using resources). These results demonstrate that the PGIS-II is an adequate instrument to evaluate PGI in the Chinese culture (Yang & Chang, 2014).

The Turkish version of the PGIS-II was adapted based on a sample of university students (Yalcin & Malkoc, 2013). It was observed that, despite the differences in social values between the Turkish and American cultures, the four PGI factors were identified. The structure of the Turkish version of the PGIS-II was similar to that observed in the original scale, and the fit indices were adequate ( $\chi^2(98, n = 279) = 220.49, p < 0.001$ ; CFI = 0.98; SRMR = 0.14; RMSEA = 0.06) (Yalcin & Malkoc, 2013).

Unlike that observed in the samples of non-native people residing in the USA (Yakunina et al., 2013a), Chinese (Yang & Chang, 2014) and Turks (Yalcin & Malkoc, 2013), the Indian version of the PGIS-II presented a different factor structure to the original (Bhattacharya & Mehrotra, 2014). The investigation of the psychometric properties of the PGIS-II was performed by Bhattacharya and Mehrotra (2014). The study sample was comprised of university students. The analysis of the Indian version of the PGIS-II showed that the four PGI factors presented unsatisfactory internal consistency indices in the sample studied. As a re-

sult, the structure of the scale was examined through exploratory factor analysis. The analysis results showed that the Indian version of the PGIS-II had a two-factor structure. The first factor refers to the cognitive aspects of PGI, identified as “Awareness of the need for change”, which presented adequate internal consistency ( $\alpha = 0.86$ ). The second factor covers the behavioral aspects of PGI, denominated “Acting on the awareness”, with satisfactory internal consistency ( $\alpha = 0.79$ ). The four PGI factors proposed in the original scale (Robitschek et al., 2012) were not replicated in this Indian sample. However, the results of this study on PGI in an Indian sample confirm the universality of the construct, since the cognitive and behavioral aspects of PGI were identified (Bhattacharya & Mehrotra, 2014).

### Personal Growth Initiative and Relationships with External Variables

Due to the awareness and intentionality of PGI being central characteristics of this process of personal change, Robitschek (1999) investigated how PGI was related to other personal growth processes. For this, the author analyzed the associations of PGI with the unconscious and unintentional growth process, with the conscious and unintentionally growth process, and with intentional ways of growing in a sample of university students. The results showed that PGI was related negatively to the unconscious and unintentional growth process and to the conscious and unintentional growth process, and positively to intentional ways of growing (Robitschek, 1999), demonstrating that PGI is a developmental process deliberated by the individual.

In other studies, it was observed that PGI presented positive relationships with positive characteristics of the individual, e.g. self-esteem (Kashubeck-West & Meyer, 2008); self-efficacy (Ogunyemi & Mabekeje, 2007); and self-compassion (Neff et al., 2007). Similarly, PGI was negatively associated with negative personal characteristics, such as increased chances of developing a pathological gambling disorder (Loo et al., 2014).

Personal growth initiative was positively related to the dimensions of self-acceptance, positive relations with others, autonomy, environment mastery, purpose in life, and personal growth of the psychological well-being (Ayub & Iqbal, 2012; Kashubeck-West & Meyer, 2008; Robitschek & Kashubeck, 1999; Robitschek & Keyes, 2009). Studies that investigated psychological well-being as a single-factor dimension also evidenced the positive relationship between this and PGI (Kashubeck-West & Meyer, 2008; Lasun & Odufowokan, 2012; Negovan, 2010; Robitschek, 1999; Shorey et al., 2007).

Higher levels of PGI were associated with the presence of higher indices of emotional well-being, social well-being (Negovan, 2010) happiness, social actualization, social contribution, social coherence, social integration (Robitschek & Keyes, 2009), life satisfaction (Kashubeck-West & Meyer, 2008; Robitschek & Kashubeck, 1999; Robitschek & Keyes,

2009; Stevic & Ward, 2008); positive mental health (Ogunyemi & Mabekoje, 2007; Vaingankar et al., 2011); and positive affect (Hardin et al., 2007; Robitschek & Keyes, 2009). Consequently, people who had higher levels of PGI were more likely to possess lower levels of negative affect (Hardin et al., 2007), stress (Hardin et al., 2007; Shorey et al., 2007), lower levels of perceived stigma (Sultan, 2011) and more chance of healthily recovering from traumatic experiences (Borja & Callahan, 2009; Callahan et al., 2013).

The characteristics of the family system of individuals may be related to the PGI indices (Robitschek & Kashubeck, 1999; Whittaker & Robitschek, 2001). Regarding the family system in a sample of North-American university students, it was demonstrated that family cohesion and communication were positively related to PGI, whereas family conflict was negatively related to this variable. It was also observed that PGI mediates the relationships between the family processes and the levels of stress experienced by individuals (Robitschek & Kashubeck, 1999). In another North-American study (Whittaker & Robitschek, 2001), it was observed that among women the family processes and the encouragement of personal development in the family system were positively associated with PGI. Among men, the family processes and family organization were positively associated with PGI.

Personality characteristics may also have an impact on the PGI indices (Sharma et al., 2011). In a sample of Indian students it was observed that the dimensions that compose the type A personality (tension, impatience, restlessness, directed toward achievement, centralization of tasks, and addiction to work) were positively related to PGI, while the dimensions of the type B personality (compliance, casualness, passivity, relaxation and patience) presented a negative association with PGI (Sharma et al., 2011).

In addition to the aforementioned relationships, it was demonstrated that PGI was positively associated with greater career exploration, clarity regarding the vocational identity (Bartley & Robitschek, 2000; Robitschek & Cook, 1999), and spirituality (Ivtzan et al., 2011). It has been observed that the presentation of some behaviors that may contribute to the development of the individual is associated with higher levels of PGI, such as the effective use of adaptive coping strategies (e.g., problem-focused coping, Weigold & Robitschek, 2011), choosing to engage in psychotherapeutic treatments (Klockner & Hicks, 2008; Oluyinka, 2011), as well as the commitment to the psychotherapy process performed (Robitschek & Hershberger, 2005) and the tendency to develop behaviors out of the individual's comfort zone (Lasun & Odufowokan, 2012; Ogunyemi & Mabekoje, 2007).

In order to comprehend the phenomenon of PGI in different groups, studies compared the PGI indices of multiple sclerosis patients with those of people without multiple sclerosis (Barak & Achiron, 2011) and students of public universities with those of private universities, and classroom based undergraduate students with distance based undergraduate

students (Negovan & Bogdan, 2013). In these studies it was observed that the groups (patients vs. healthy, public university students vs. private university students, classroom based undergraduate students vs. distance based undergraduate students) did not show differences in relation to the PGI indices (Barak & Achiron, 2011; Negovan & Bogdan, 2013).

Only five studies used the PGIS-II as an instrument to evaluate PGI (Luyckx & Robitschek, 2014; Sharma & Rani, 2013, 2014; Weigold et al., 2014; Yakunina et al., 2013a). The use of the PGIS-II allows the investigation of the cognitive (openness to change and planfulness) and behavioral (using resources and intentional behavior) dimensions of PGI through a multifactorial scale (Robitschek et al., 2012). Furthermore, Robitschek et al. (2012) proposed that the sum of the scores of the four factors provide an overall PGI score.

In a study using the PGIS-II with North-American university students, it was shown that the dimensions readiness for change, planfulness and intentional behavior were positively associated with the original measure of PGI, self-efficacy, internal locus of control and negatively associated with powerful others locus of control and chance locus of control. However, the using resources dimension did not show the same relationship pattern as the other PGI factors, in a way that using resources was positively associated with the original measure of PGI and self-efficacy only (Weigold et al., 2014).

Studies developed with Indian university students used the PGIS-II to evaluate how the four dimensions of PGI were associated with variables related to well-being (Sharma & Rani, 2013, 2014). It was shown that the four PGI dimensions (readiness for change, planfulness, using resources, and intentional behavior) presented positive relationships with self-efficacy dimensions (initiative, persistence and effort) (Sharma & Rani, 2013), emotional well-being, psychological well-being and social well-being (Sharma & Rani, 2014).

The study by Luyckx and Robitschek (2014) with North-American youths showed that the PGI dimensions are related to the processes of identity (exploration in breadth, exploration in depth, ruminative exploration, commitment making, and identification with commitment) and to the levels of depression and self-esteem of the participants. The exploration process refers to active questioning regarding the identity and the search for experiences of different social roles, which precedes the commitment process. In the exploration in breadth process the young person broadly analyses and experiences the different social roles. Exploration in depth is characterized by a process in which the young person is intensely involved in the analysis of their personal values and their social role. Ruminative exploration refers to a process of continual exploration, associated with anxiety and depression, in which the young person has difficulty committing to choices that will enable the development of their identity. The process of commitment making is constituted by the beliefs, goals and values that young people adopt as part of their identity. Identification with commitment can be comprehended as how young people identify

with the social groups and activities that share the same values and social goals adopted by them (Luyckx & Robitschek, 2014).

The readiness for change dimension was positively related to the identity process of ruminative exploration. The planfulness dimension was positively associated with self-esteem, and the processes of commitment making and identification with commitment, and negatively associated with ruminative exploration and depression. Using resources was positively associated with exploration in depth and ruminative exploration. The intentional behavior dimension was positively related to exploration in breadth and exploration in depth. Furthermore, the exploration in breadth identity process totally mediated the relationship of the readiness for change dimension with the indices of self-esteem and depression. The ruminative exploration identity process partially mediated the relationship of using resources and intentional behavior with self-esteem and depression. Finally, the processes of exploration in breadth and ruminative exploration partially mediated the relationships of planfulness with the levels of self-esteem and depression (Luyckx & Robitschek, 2014).

Studies by Sharma and Rani (2013, 2014) and Yakunina et al. (2013b) investigated the relationship between the overall PGI score, evaluated through the PGIS-II, and other variables. These studies demonstrated that the overall PGI score was positively related to hardiness, universal-diverse orientation, psychological adjustment, emotional well-being, psychological well-being and social well-being, self-efficacy and negatively related to stress (Sharma & Rani, 2013; Yakunina et al., 2013b).

The results cited above showed that PGI and its dimensions (readiness for change, planfulness, using resources, and intentional behavior) are related to several external variables. In social sciences, the magnitude of correlations may be classified as small when values ( $r$ ) are smaller than .30, medium when values range from .30 to .50, and large when values are higher than .50 (Cohen, 1992). The present study showed that the general score of PGIS presented high positive correlations with personal resources (*e.g.* self-esteem,

autonomy, Kashubeck-West & Meyer, 2008), future-oriented variables (*e.g.* purpose in life, Ayub & Iqbal, 2012), and well-being (*e.g.* psychological well-being, Robitschek, 1999). The positive relations of medium magnitude between PGI and external variables covered mainly well-being related constructs (*e.g.* happiness, Robitschek & Keyes, 2009) and personal resourcers (*e.g.* self-compassion, Neff et al., 2007). The positive correlations of PGI with low magnitude were in general with social well-being related variables, such as social actualization and social integration (Robitschek & Keyes, 2009). The PGI general score negative relations were of high magnitude with future-oriented variables (*e.g.* unconscious and unintentional growth process, Robitschek, 1999) and medium with variables related to mental health, such as anxiety (Weigold & Robitschek, 2011) and stress (Hardin et al., 2007) (See Table 2).

The PGI dimensions (readiness for change, planfulness, using resources, and intentional behavior) were positively and highly associated with personal resources, like self-efficacy (Weigold et al., 2014). The PGI dimensions presented positive and moderate correlations with variables related to personal growth (*e.g.* exploration in breadth and in depth, Luyckx & Robitschek, 2014). Furthermore, results showed that the readiness for change, planfulness, using resources, and intentional behavior presented positive associations of low magnitude with well-being related constructs, such as psychological, social and emotional well-being (Sharma & Rani, 2014). The negative relations between PGI dimensions and external variables presented low magnitude, as can be observed between depressive symptoms and ruminative exploration (Luyckx & Robitschek, 2014) (See Table 2).

The PGI general score assessed by the PGIS-II showed positive high correlations with personal features, such as hardiness and universal-diverse orientation (Yakunina et al., 2013b). The relations of PGI general score to well-being were low (*e.g.* psychological, social and emotional well-being, Sharma & Rani, 2014). Moreover, the negative relations of PGI general score to negative outcomes were medium, such as the relation of PGI to stress (Yakunina et al., 2013b) (see Table 2).

**Table 2.** Relations of Personal Growth Initiative (readiness for change, planfulness, intentional behavior, and using resources) with external variables.

Authors /Year of Publication	PGIS		PGIS – II			
	GS	RC	Pla	IB	UR	GS
UU	Robitschek, 1999	-.54*				
CU	Robitschek, 1999	-.25*				
IWG	Robitschek, 1999	.34*				
ICL	Weigold et al., 2014		.33*	.40*	.08	.38*
PLC	Weigold et al., 2014		-.27*	-.26*	.04	-.19*
CLC	Weigold et al., 2014		-.24*	-.28*	.08	-.24*
SE	Kashubeck-West & Meyer, 2008	.65*				
	Luyckx & Robitschek, 2014		.20*	.33*	.18*	.24*
SEf	Ogunyemi & Mabekoje, 2007	.22*				
	Weigold et al., 2014		.65*	.70*	.26*	.66*
Ini	Sharma & Rani, 2013		-.11*	-.19*	.11*	-.20*
Per	Sharma & Rani, 2013		.14*	.12*	.10*	.18*

	Authors /Year of Publication	PGIS		PGIS – II			
		GS	RC	Pla	IB	UR	GS
Ef	Sharma & Rani, 2013		.17*	.30*	.10*	.33*	.33*
SC	Neff et al., 2007	.45*					
BCZ	Lasun & Odufowokan, 2012	.25*					
	Ogunyemi & Mabekoje, 2007	.26*					
PGIS	Weigold et al., 2014		.61*	.69*	.35*	.68*	
H	Yakunina et al., 2013b						.50*
UDO	Yakunina et al., 2013b						.38*
TPA	Sharma et al., 2011	.61*					
TPB	Sharma et al., 2011	-.37*					
LS	Kashubeck-West & Meyer, 2008	.52*					
	Robitschek & Kashubeck, 1999	.42					
	Robitschek & Keyes, 2009	.40* to .36*					
PA	Robitschek & Keyes, 2009	.38* to .37*					
	Hardin et al., 2007	.49*					
NA	Hardin et al., 2007	-.26*					
PWB	Kashubeck-West & Meyer, 2008	.73*					
	Lasun & Odufowokan, 2012	.11*					
	Negovan, 2010	.60*					
	Robitschek, 1999	.70*					
	Sharma & Rani, 2014		.18*	.29*	.03	.35*	.31*
	Shorey et al., 2007	.31* to .42*					
Au	Ayub & Iqbal, 2012	.22*					
	Kashubeck-West & Meyer, 2008	.56*					
	Negovan & Bogdan, 2013	.43*					
	Robitschek & Keyes, 2009	.28* to .42*					
EM	Ayub & Iqbal, 2012	.34*					
	Kashubeck-West & Meyer, 2008	.61*					
	Robitschek & Keyes, 2009	.41* to .46*					
PRO	Ayub & Iqbal, 2012	.24*					
	Kashubeck-West & Meyer, 2008	.56*					
	Robitschek & Kashubeck, 1999	.39*					
	Robitschek & Keyes, 2009	.32* to .33*					
PL	Ayub & Iqbal, 2012	.56*					
	Kashubeck-West & Meyer, 2008	.65*					
	Robitschek & Keyes, 2009	.39* to .35*					
PG	Ayub & Iqbal, 2012	.48*					
	Kashubeck-West & Meyer, 2008	.59*					
	Robitschek & Kashubeck, 1999	.43*					
	Robitschek & Keyes, 2009	.38* to .33*					
SA	Ayub & Iqbal, 2012	.54*					
	Kashubeck-West & Meyer, 2008	.62*					
	Robitschek & Kashubeck, 1999	.51*					
	Robitschek & Keyes, 2009	.41* to .41*					
EWB	Sharma & Rani, 2014		.10*	.15*	.02	.17*	.16*
	Negovan, 2010	.30*					
Hap	Robitschek & Keyes, 2009	.41* to .36*					
SWB	Sharma & Rani, 2014		.10*	.10*	-.05	.17*	.13
SAc	Robitschek & Keyes, 2009	.26*					
SCon	Robitschek & Keyes, 2009	.31* to .40*					
SCoh	Robitschek & Keyes, 2009	.35* to .36*					
SInt	Robitschek & Keyes, 2009	.28*					
PMH	Ogunyemi & Mabekoje, 2007	.11*					
	Vaingankar et al., 2011	.63*					
PsAd	Yakunina et al., 2013b						.60*
CM	Luyckx & Robitschek, 2014		.20*	.28*	.14*	.22*	
IWC	Luyckx & Robitschek, 2014		.33*	.42*	.20*	.30*	
EB	Luyckx & Robitschek, 2014		.30*	.29*	.19*	.34*	
ED	Luyckx & Robitschek, 2014		.33*	.35*	.32*	.39*	
RE	Luyckx & Robitschek, 2014		-.05	-.20*	.02	-.07	
FP	Whittaker & Robitschek, 2001	.25* to .29*					

**Table 2.** Relations of Personal Growth Initiative (readiness for change, planfulness, intentional behavior, and using resources) with external variables (continuation).

		PGIS		PGIS – II			
		GS	RC	Pla	IB	UR	GS
O	Whittaker & Robitschek, 2001	.15* to .20*					
CE	Bartley & Robitschek, 2000	.41*					
	Robitschek & Cook, 1999	.39*					
VI	Bartley & Robitschek, 2000	.38* to .55*					
	Robitschek & Cook, 1999	.43* to .52*					
Sp	Ivtzan et al., 2011	.33*					
PFC	Weigold & Robitschek, 2011	.39* to .49*					
EFC	Weigold & Robitschek, 2011	-.25* to -.34*					
PSt	Sultan, 2011	-.63*					
GD	Loo et al., 2014	.12*					
	An	Robitschek & Kashubeck, 1999	-.27*				
DS	Weigold & Robitschek, 2011	-.27* to -.36*					
	Luyckx & Robitschek, 2014		-.15*	-.27*	-.09*	-.16*	
S	Robitschek & Kashubeck, 1999	-.29*					
	Hardin et al., 2007	-.40*					
TS	Shorey et al., 2007	-.20* to -.29*					
	Yakunina et al., 2013b						-.44*
	Borja & Callahan, 2009	-.13*					
	Callahan et al., 2013	-.24*					

*Note:* \*  $p < .05$ , PGIS = Personal Growth Initiative Scale, PGIS-II = Personal Growth Initiative Scale - II, GS = General Score, RC = Readiness for Change, Pla = Planfulness, IB = Intentional Behavior, and UR = Using Resources, UU = Unconscious and Unintentional Growth Process, CU = Conscious and Unintentional Growth Process, IWG = Intentional Ways of Growing, ICL = Internal Locus of Control, PLC = Powerful Others Locus of Control, CLC = Chance Locus of Control, SE = self-esteem, SEf = self-efficacy, Ini = Initiative, Per = Persistence, Ef = Effort, SC = Self-Compassion, TBCZ = Tendency to Develop Behaviors Out of the Individual's Comfort Zone, H = Hardiness, UDO = Universal-Diverse Orientation, TPA = Type A Personality, TBP = Type B Personality, LS = Life Satisfaction, PA = Positive Affect, NA = Negative Affect, PWB = Psychological Well-Being, Au = Autonomy, EM = Environment Mastery, PRO = Positive Relations with Others, PL = Purpose in Life, PG = Personal Growth, SA = Self-Acceptance, EWB = Emotional Well-Being, Hap = Happiness, SWB = Social Well-Being, SAc = Social Actualization, SCon = Social Contribution, SCoh = Social Coherence, SInt = Social Integration, PMH = Positive Mental Health, PsAd = Psychological Adjustment, CM = Commitment Making, IWC = Identification with Commitment, EB = Exploration in Breadth, ED = Exploration in Depth, RE = Ruminative Exploration, FP = Family Process, O = Organization, CE = Career Exploration, VI = Vocational Identity, Sp = Spirituality, PFC = Problem-Focused Coping, EFC = Emotion-Focused Coping; PSt = Perceived Stigma, GD = Gambling Disorder, An = Anxiety, DS = Depressive Symptoms, S = Stress, TS = Trauma Severity.

### Qualitative Evaluation of Personal Growth Initiative

Only one study was found that qualitatively evaluated the relationships of the PGI phenomenon (Bhattacharya & Mehrotra, 2013). In this study, interviews were conducted with two focus groups of university students, in order to investigate the relationships of PGI with the individual's perceptions of their identity, development of personal change, and goals established. It was observed that PGI was associated with the university students' positive perceptions of their identity, consciously making beneficial personal changes, and with the achievement of the goals established by them. The findings of this study highlighted the role of PGI in making personal changes and developing self-evaluations congruent to the identity of the individual (Bhattacharya & Mehrotra, 2013).

### Interventions for Personal Growth Initiative Promotion

Personal growth initiative was also used as the outcome variable to investigate the impact of interventions designed to promote self-knowledge and the development of skills

related to PGI (Robitschek, 1997; Thoen & Robitschek, 2013; Wang & Tien, 2011). The results of the studies presented below indicate that the interventions developed were effective in promoting the development of skills related to PGI (Robitschek, 1997; Thoen & Robitschek, 2013; Wang & Tien, 2011).

Robitschek (1997) developed an intervention consisting of a retreat lasting eight to 15 days, performed with participants of a self-knowledge course. The activities were carried out in groups and involved climbing, canoeing and excursions in the forest. The purpose of the retreat was to motivate the participants to recognize their limitations, to work in teams and to develop skills related to PGI. The impact of the intervention was evaluated through a quasi-experimental design, with only the intervention group being evaluated. Participants responded to questionnaires one month before the retreat, at its conclusion, and three months after the end of the retreat. Personal growth initiative was measured by means of the PGIS. It was shown that the intervention promoted an increase in the PGI indices, which remained stable three months after the end of the intervention (Robitschek, 1997).

The intervention developed by Thoen and Robitschek (2013) was directed toward university students. In this study an experimental design was used to investigate the impact of the intervention. For this, the participants were randomly assigned to four conditions: a) psychoeducation regarding PGI and activities for personal growth; b) reading of a text about storms and activities for personal growth; psychoeducation regarding PGI and family activity; c) reading a text about storms and family activity (Thoen & Robitschek, 2013). The four conditions of the intervention were individually developed over the course of one week. Participants completed the questionnaires at the beginning and end of the study, with the period of one week between the applications. The overall score of the PGIS-II was used to investigate the PGI indices. It was observed that the condition that combined psychoeducation regarding PGI and the development of activities for personal growth was the most effective in promoting skills related to PGI (Thoen & Robitschek, 2013).

Wang and Tien (2011) conducted an intervention to promote PGI among professionals working in the areas of health, education, commerce, and industry. An experimental design was used to investigate the impact of the intervention. Participants were randomly selected to participate in an intervention to promote PGI, which was composed of six to eight sessions, or to participate in one or two sessions of career guidance (Wang & Tien, 2011). Participants responded to questionnaires only after participating in the interventions. The PGIS was applied to investigate the PGI indices. The intervention developed by Wang and Tien (2011) was effective for the development of PGI.

## Discussion

In the present study it was demonstrated that studies about PGI have shown a gradual increase since the 1990s, at which time Robitschek (1997) initiated the systematic study of PGI and developed the PGIS (Robitschek, 1998) This growth has been most notable in the last eight years (2007-2014), the period in which 80.4% of the publications are condensed (see Figure 1).

The studies found in this systematic review focused on investigating the psychometric properties of the instruments used to evaluate PGI, relations between PGI and other variables related to well-being, and the impact of interventions that seek to promote PGI. It was observed that the population investigated in more than half of the studies published was the university student population (33 studies, 70%), and that the majority of these studies were conducted in the USA (26 studies, 55%) (See Table 1). These results suggest that the samples evaluated could present high levels of homogeneity. The homogeneity of the samples investigated in different studies regarding PGI can reduce the possibility of the findings being generalized to different contexts and populations, as well as the results being used to develop

interventions that address the positive development of the participants. Furthermore, no studies were found that had been conducted in Latin America or Oceania. Thus, there is a need to investigate the PGI phenomenon in different contexts and locations.

The studies that investigated the psychometric properties of the PGIS showed that the scale did not present a stable structure. The lack of stability of the scale when used in different populations suggested the need to review the items that compose it, which motivated Robitschek to develop the revised version (PGIS-II) of the scale (Robitschek et al., 2012).

Regarding the studies that investigated the psychometric properties of the PGIS-II, these demonstrated the multifactorial structure of the scale, indicating the existence of the four constructs that compose PGI (Robitschek et al., 2012). The adaptation studies of the PGIS-II showed the stability of the four-factor structure in China (Yang & Chang, 2014); the USA (Weigold et al., 2014; Yakunina et al., 2013a); and Turkey (Yalcin & Malkoc, 2013).

The results of the study by Weigold et al. (2013) demonstrated that the structure of the North-American version of PGIS-II is invariant, even when different methods of data collection (pen and paper vs. online) are used. Analyzed jointly, the results of this study, coupled with the validity evidence of the multifactor structure of the PGIS-II (Robitschek et al., 2012; Weigold et al., 2014; Yakunina et al., 2013a; Yalcin & Malkoc, 2013; Yang & Chang, 2014) indicate the potential of the PGIS-II for use in evaluating PGI.

Despite the evidence for the stability of the multifactorial structure of the PGIS-II (Weigold et al., 2013b; Weigold et al., 2014; Yakunina et al., 2013; Yalcin & Malkoc, 2013; Yang & Chang, 2014), this structure was not observed in the Indian sample (Bhattacharya & Mehrotra, 2014). The impossibility for Bhattacharya and Mehrotra (2014) to evidence the four-factor structure of the PGIS-II could be due to either instability in the scale, or specific cultural questions related to the Indian culture. Therefore, other studies using the PGIS-II in different cultures are needed to evaluate the extent to which the PGIS-II can maintain its theoretically stipulated multifactorial structure in different contexts. If the results found by Bhattacharya and Mehrotra (2014) are replicated in future studies, it is possible that there is a need for sensitive items to be developed to evaluate the dimensions that compose PGI in different cultures.

In this review, some studies developed with the PGIS-II used the overall score to evaluate PGI (Sharma & Rani, 2013, 2014; Thoen & Robitschek, 2013; Yakunina et al., 2013b). The use of the overall score of the PGIS-II to evaluate PGI is a procedure recommended by Robitschek et al. (2012). However, in the studies that evaluated the structure of the PGIS-II (Robitschek et al., 2012; Weigold et al., 2014; Yakunina et al., 2013a; Yalcin & Malkoc, 2013; Yang & Chang, 2014) there was no evidence for the existence of an overall score being a factor greater than the four independent PGI dimensions. The absence of evidence to support

the comprehension of an overall PGI score makes it impossible to use this as a general indicator of PGI. Thus, it is suggested that the results of the studies investigating the overall PGI score are carefully analyzed. Similarly, it is suggested that further studies evaluate the plausibility of the PGIS-II presenting a hierarchical structure, with a second-order general factor (PGI).

Regarding the psychometric properties of the PGIS and PGIS-II and the use of the adapted versions, studies were found that used scales without citing whether the adaptation process of the scale was conducted (India, Sharma, & Rani, 2013, 2014; Sharma et al., 2011; Israel, Barak & Achiron, 2011; Nigeria, Lasun & Odunfowokan, 2012; Ogunyemi & Mabekeje, 2007; Oluyinka, 2011; Pakistan, Ayub & Iqbal, 2012; Romania, Negovan, 2010; Negovan & Bogdan, 2013; Singapore, Vaingankar et al., 2011). The absence of unification of the findings has a negative impact on the comprehension of the PGI phenomenon. For example, in the studies in India, different versions of the PGIS-II were used (four-factor structure, Sharma & Rani, 2013, 2014; Sharma et al., 2011; two-factor structure, Bhattacharya & Mehrotra, 2014). The realization of the adaptation and the evaluation of the psychometric properties of an instrument are processes that are essential to demonstrate the reliability of the instrument used. The use of instruments that have not been adequately adapted and validated to the cultural context in which they are used limits the methodological quality of the study. Furthermore, this practice reduces the reliability and generalizability of the results encountered.

With regard to the relationship of PGI with external variables, PGI and its dimensions (readiness for change, planfulness, using resources, and intentional behavior) were positively associated with the variables related to a state of increased well-being (e.g., positive affect, and psychological, social and emotional well-being), and negatively related to factors associated with states of lower levels of well-being (e.g., stress, anxiety and depression). The relationship pattern of PGI and its dimensions with the variables evaluated in the studies cited in the present article show that PGI, in fact, appears as an aspect of the personal growth dimension of psychological well-being (Ryff & Keyes, 1995).

The skills present in PGI are also associated with the person's ability to evaluate adverse and stressful situations as challenges and opportunities for personal growth, so that they experience lower levels of stress when coping with these situations (Weigold & Robitschek, 2011; Yakunina et al., 2013b). Furthermore, readiness for change and using resources may intensify the individual's search for new experiences that contribute to their personal development. The possibility of experiencing a variety of situations enhances the chances of people strengthening their social and emotional support network, as well as experiencing positive situations more frequently compared to individuals with low PGI indices (Yakunina et al., 2013b). These relationships demonstrate the impact of the PGI skills on evaluations of

the experiences faced by individuals, showing that PGI can also be comprehended as a personal resource.

The comprehension of PGI as a set of skills that can be developed was evident in the interventions that were effective in promoting PGI (Robitschek, 1997; Thoen & Robitschek, 2013; Wang & Tien, 2011). The use of PGI as the outcome variable also demonstrated the sensitivity of the PGIS (Robitschek, 1997; Wang and Tien, 2011) and PGIS-II (Robitschek & Thoen, 2013) in evaluating changes in PGI levels over time.

Although this study provides important information about the PGI construct, it has its limitations. The language of the articles included was the main limitation of this review, since the review included only articles written in English, Spanish or Portuguese. This language limitation may restricted the access for publications of others countries. This criterion was used to gain a better comprehension of the studies and to valorize those that can be accessed by the majority of researchers

Since the use of articles was limited by the author language limitations, only articles written in Portuguese, Spanish or English were used.

This review contributes by presenting a comprehensive overview of studies on the PGI construct. Future researches should test the validity of the PGIS-II in different samples, such as with clinic patients, or across cultures. Moreover, longitudinal studies should be developed to assess the existence of causal relationships between PGI dimensions, personal features and well-being.

## Final Considerations

Personal growth initiative is characterized by the skills of individuals to intentionally seek opportunities to mature and realize personal changes that will enable their positive development (Robitschek et al., 2012). The results of the studies analyzed in this review indicated that PGI plays a crucial role for individuals to experience increased levels of well-being, develop themselves positively and adapt to adverse situations.

It was also evidenced that PGI constitutes a personal resource. For example, in the study by Barak and Achiron (2011) no significant differences were observed between the levels of PGI among patients with multiple sclerosis and people who were not diagnosed with this syndrome. Furthermore, the potential was demonstrated for this personal resource to be promoted by interventions focused on the development of PGI related skills (Robitschek, 1997; Thoen & Robitschek, 2013; Wang & Tien, 2011).

The results of the studies mentioned above highlight the importance of developing effective interventions for the development of PGI related skills as a strategy to promote higher levels of well-being, as well as expand the individuals' abilities to overcome adversities. Also, PGIS-II may be used to assess how personal growth dimensions act on the pro-

cess of self-improvement. This would help researchers and health professionals to identify to what extent cognitive and behavioral features impact in the positive development of individuals.

The universality of PGI was observed in studies performed in different contexts (Bhattacharya & Mehrotra, 2014; Robitschek et al., 2012; Weigold et al., 2014; Yakunina et al., 2013a; Yalcin & Malkoc, 2013; Yang & Chang, 2014).

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