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Development and initial validation of the Generalized Pliance Questionnaire

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Abstract

Empirical research on functional classes of rule-governed behavior has been scarce, which might be due to the absence of valid behavioral or self-report measures. We describe the development and initial examination of the Generalized Pliance Questionnaire (GPQ) through three studies with a total of 2127 participants. In Study 1, a pool of 77 items reflecting generalized pliance was designed. Thirty-eight of these items were rated as high-quality by at least one of two experts in RFT and were administered to 130 undergraduates. A preliminary version of the GPQ consisting of 18 items (i.e., GPQ-18) was obtained. In Study 2, the GPQ-18 was applied to 410 undergraduates. The results of the exploratory factor analysis showed that the GPQ-18 can be considered as a unidimensional measure and that all items showed good functioning. A shorter, 9-item version of the GPQ (i.e., GPQ-9) was also obtained. In Study 3, the GPQ-18 was applied to three samples, including large samples of undergraduates, the general population and a smaller clinical sample. Confirmatory factor analyses showed that the one-factor model obtained a good fit for the GPQ-18 and acceptable for the GPQ-9. Both versions of the GPQ showed excellent internal consistency and theoretically coherent correlations with a wide range of constructs. In conclusion, the GPQ seems to be a valid and reliable measure of generalized pliance.

Key words: Generalized pliance; Rule-governed behavior; Relational frame theory; Acceptance and commitment therapy; Experiential avoidance.

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1. Introduction

1.1. Rule-governed behavior and sensitivity to direct contingencies

To provide a behavior-analytic account of problem-solving and thinking, Skinner (1966) coined the term rule-governed behavior (RGB) and differentiated it from contingency-shaped behavior (CSB). Behavior-analytic research soon found that, in some circumstances, RGB tends to be more sensitive to socially mediated consequences than to immediate environmental contingencies. This phenomenon was called *insensitivity to contingencies* (e.g., Hayes, Brownstein, Zettle, Rosenfarb, & Korn, 1986; Matthews, Shimoff, Catania, & Sagvolden, 1977; Vaughan, 1989). An example of this would be a little girl, Amy, putting on her coat on a sunny, warm day because her mother usually asks her to do that (e.g., "Amy, sweetheart, put your coat on before going outside") and reinforces following the rule (e.g., smiling and saying "Good girl!") instead of contacting the direct aversive contingencies of getting too warm.

1.2. Types of rule-governed behavior

Amy's example is an instance of *pliance*, a type of rule-following identified by Zettle and Hayes (1982) and later incorporated in the relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche, 2001) account of RGB. According to RFT, pliance is usually the first functional class of RGB learned due to its relational simplicity (e.g., Hayes, Gifford, & Hayes, 1998). Pliance is RGB under the control of a history of multiple examples in which a speaker provides the listener with reinforcement contingent on the correspondence between the rule and the relevant behavior (Barnes-Holmes et al., 2001; Hayes, Zettle, & Rosenfarb, 1989; Luciano, Valdivia-Salas, & Ruiz, 2012; Zettle & Hayes, 1982). In other words, pliance is a functional class of RGB motivated by socially mediated consequences.

Note that, under some circumstances, rules such as pliance can also be generated by the individual (i.e., self-rules), who can be the speaker and listener within the same skin (Skinner, 1957). As in Amy's example, pliance can lead to insensitivity to direct contingencies because the rule that is followed (which is called a ply) only specifies socially mediated contingencies.

The second functional class of RGB identified by Zettle and Hayes (1982) is *tracking*. Tracking is RGB under the control of a history of multiple exemplars in which doing what is stated in the rule is followed by natural consequences derived from the way the world is arranged (Barnes-Holmes et al., 2001; Hayes et al., 1989; Luciano et al., 2012). In other words, tracking is a functional class of RGB motivated by the natural consequences that follow when performing the rule. In Amy's case, an instance of tracking (i.e., a track) would consist of following her grandmother's advice (or deriving the track by herself): "If you want to stay comfortable, you should wear summer clothes when it's warm outside." This way, as Amy feels that it is a warm day, she left the coat on the hanger when going outside.

Tracking is sensitive to the direct environmental contingencies, so a change in them would lead the individual to behave accordingly (however, see how tracking can lead to problems in: Luciano et al., 2012; Törneke, Luciano, & Valdivia-Salas, 2008). For instance, if Amy moves to a city where she experiences that the weather is unpredictable (e.g., sometimes it's warm in the morning but cold in the afternoon), she might contact the aversive consequences of not taking her coat with her and reformulate the rule (e.g., "In this city, you cannot trust the weather. It's better to take the coat with me").

1.3. The development of generalized pliance

As pliance develops in social interaction, there are as many types of pliance as histories of contingencies mediated by others (Luciano et al., 2012). For instance, pliance can be primarily controlled by: (a) the type of reinforcement (i.e., positive or negative), (b) the immediate contact with consequences or delayed and probabilistic consequences that are only immediately contacted symbolically, and (c) specific contexts (e.g., the couple, the boss, etc.) or being generalized across situations. Importantly, because pliance is the first type of rule-following developed, it is usual that it over-generalizes at some point in the child's life (as, for example, when generalized imitation emerges). Fortunately, interactions with other people usually lead to contextualizing pliance to situations where it is appropriate and to developing tracking by helping the child to realize the natural consequences of her behavior (Luciano, Valdivia-Salas, Cabello-Luque, & Hernández, 2009; Törneke et al., 2008; Wulfert, Greenway, Farkas, Hayes, & Dougher, 1994). However, if the child lacked a social community that consistently provides these types of interactions, pliance would remain generalized.

Pliance becomes more complex when the child develops further fluency in relational framing[1]. For instance, plys become increasingly abstract (e.g., Amy might derive: "I should be a good girl so other people will love me") and propagates through derivation and transformation of functions to similar or analog situations (Amy does what she thinks is "right" to be a "good girl" at home, school, when visiting a friend, etc.) (see a laboratory demonstration in Monestès, Greville, & Hooper, 2017). This context is the breeding ground for social approval to become the main source of reinforcement for the individual.

1.4. Generalized pliance and psychopathology

Generalized pliance can lead to deleterious consequences to the individual because of hypersensitivity to social whim. Behaving with the primary goal of obtaining social approval usually precludes contacting with the natural and direct consequences of one's own behavior, which makes individuals displaying generalized pliance particularly insensitive to contingencies. This insensitivity gets worse in individuals with sophisticated relational framing skills because the more abstract the desired social consequences are, the harder it is for direct consequences to control behavior (Luciano et al., 2012).

For instance, imagine that Amy grew up with a lack of interactions for contextualizing pliance and developing tracking. As social approval becomes the main source of reinforcement for Amy, she might behave to obtain the admiration of her schoolmates by smoking and following an extremely restrictive diet, but at the same time studying hard to obtain the teachers and parents' approval. This way, Amy is not only insensitive to the negative consequences of smoking and following a restrictive diet, but also to the lessons studied, as she does that to obtain approval, which masks the contact with the understanding and applicability of the material studied.

Behaving primarily to obtain social approval might not be problematic in the short term because the individual can be competent in obtaining this kind of reinforcement. However, in the long term, the individual might encounter situations in which the consequences provided by others become unpredictable and uncontrollable, which would lead to lower contact with sources of positive reinforcement. Then, generalized pliance could lead the individual to rigidly repeat functional classes of behaviors that were previously successful for obtaining social approval without being sensitive to the new aversive consequences. Additionally, as social rules support considering aversive private experiences as events that need to be avoided/escaped in order to have a good life (Hayes,

Strosahl, & Wilson, 1999; Wilson & Luciano, 2002), individuals displaying generalized pliance are more likely to engage in rigid and maladaptive patterns of experiential avoidance (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Luciano et al., 2012).

Following with Amy's example, imagine she decided to study medicine because it is a family tradition, but she is not especially inclined towards it. She enters in the university and soon sees that she does not like and understand the classes, which prevents her from obtaining professors' approval. Besides, she has a new set of classmates who are only interested in studying and do not approve her smoking habits and extremely thin constitution. Suddenly, Amy begins to experience the lack of positive reinforcement and engages in rumination about what is wrong with her and why other people seem to dislike her. This rumination pattern leads Amy to feel even worse and to engage in additional experiential avoidance strategies such as not going to the university, avoiding conversations with her parents about her career, increasing her smoking and dietary restrictions, etc. Following this behavior pattern, Amy would probably experience a narrower and less satisfying life and develop a psychological difficulty.

In conclusion, generalized pliance increases the likelihood of the individual losing contact with relevant sources of positive reinforcement and entering loops of negative reinforcement that are characteristic of experiential avoidance. Indeed, generalized pliance has been identified as a risk factor for the development of psychopathology (e.g., Luciano et al., 2012; McAuliffe, Hughes, & Barnes-Holmes, 2014; Monestès, Villatte, Stewart, & Loas, 2014; Törneke et al., 2008; Zettle, 2007) and it plays a relevant role in the psychological inflexibility model of psychopathology advocated by acceptance and commitment therapy (ACT; Hayes et al., 1999).

1.5. Empirical evidence of pliance and its measurement

Although the terms pliance and tracking were coined in 1982, a recent review by Kissi et al. (2017) has shown that there is very limited experimental support that these concepts are referring to distinct functional classes of behavior. Pliance-related experiments have been conducted in two main ways. Firstly, some experiments have provided instructions resembling pliance and tracking and have analyzed participants' performance in an experimental task when an unsignaled contingency change occurred. It is then expected that participants who received experimental instructions resembling pliance would display more insensitivity to contingencies than participants who received instructions resembling tracking. Mixed evidence has been found with this type of experimental procedures (e.g., Baruch, Kanter, Busch, Richardson, & Barnes-Holmes, 2007; McAuliffe et al., 2014). Secondly, some studies have selected participants according to their scores on some measures of rigid personality, assuming that this overlaps with excessive pliance regulation. Afterwards, the experimental procedures also consisted of tasks in which contingencies were altered. This type of procedure has found that participants displaying rigidity show higher degree of perseverance and insensitivity to contingencies (e.g., Gutiérrez-Martínez, Luciano, & Valdivia-Salas, 2005; Wulfert et al., 1994).

In conclusion, the preliminary evidence shows that it is difficult to design experimental instructions to resemble pliance and tracking, probably because participants' personal history of RGB influences their performance more than the experimental rules. Indeed, when selecting participants according to scores on rigidity, the results seem more coherent across studies. One limitation of the latter type of procedures is that questionnaires used to select participants were not explicitly designed to measure generalized pliance, so conclusions should be taken with caution.

One of the reasons for the scarce investigation in functional classes of RGB might be the lack of valid behavioral or self-report measures of pliance and tracking. Specifically, developing valid measures of generalized pliance might be useful for a wide range of studies: experimental psychopathology, longitudinal, and clinical studies.

1.6. Aim of this study

The current paper presents a series of studies that have led to the creation of a measure of generalized pliance: the Generalized Pliance Questionnaire (GPQ). In Study 1, we present the process of item development, expert judgment, and first application of the GPQ in a small sample of Spanish undergraduates with the aim of selecting an initial scale with a total 10 to 20 items. In Study 2, the GPQ was administered to a large sample of Colombian undergraduates in order to conduct an exploratory factor analysis with the 18 items retained in Study 1. A shorter version of the GPQ consisting of 9 items was also provided in this study. Lastly, in order to conduct confirmatory factor analyses with both versions of the GPQ and analyze their internal consistency and correlations with other relevant self-report instruments, the GPQ was administered in Study 3 to three Colombian samples including a large sample of undergraduates, a large sample of the general population, and a clinical sample.

2. Study 1: Item development and reduction

2.1. Item development. Five RFT researchers from Spain (three PhD students and two PhD graduates who have conducted multiple RFT studies) were given a definition of generalized pliance and some guidelines to write items reflecting the construct. The definition of generalized pliance provided was based on that of Törneke et al. (2008) and Luciano et al. (2012): “Pliance is a functional class of rule-following in which the source of reinforcement is social. Generalized pliance occurs when the individual’s repertoire is

characterized by actions directed to obtain social approval, which seems to be the main reinforcer in his/her life, and provokes a reduced sensitivity to other sources of stimuli control." Each researcher was asked to write approximately 15 items. A total of 77 items were provided.

After the previous process, two additional experts in RFT (both PhD graduates who had conducted multiple RFT studies) from Spain were asked to rate the quality of the preliminary 77 items. Thirty-eight items were rated as high-quality by at least one of the experts and were maintained for subsequent analyses (see Table 1). Slight modifications in phraseology were introduced in 7 of the items according to the experts' suggestions.

INSERT TABLE 1 ABOUT HERE

2.2. Participants. Sample 1 was used in this study. It consisted of 130 undergraduates (age range 18-46, *M*= 22.58, *SD*= 5.09) from a university from the south of Spain. Most of them (77%) were studying Psychology. The remaining 23% of participants were studying Teaching, Law, or English Philology. Fifty-nine percent were women. Only 3.1% of participants reported being in some type of psychological or psychiatric treatment, and 3.8% of participants were taking some psychotropic medication.

2.3. Instruments

2.3.1. Generalized Pliance Questionnaire – 38 (GPQ-38). The GPQ version used in Study 1 included the 38 items rated as high quality by at least one of the RFT experts. A 7-point Likert-type scale (7 = *always true*; 1 = *never true*) was established. The following instructions were presented: "Below, you'll find a list of affirmations. Please rate the degree to which they are TRUE FOR YOU by circling the numbers beside them. Use the following scale to make your choices."

2.3.2. Acceptance and Action Questionnaire – II (AAQ-II; Bond et al., 2011; Spanish translation by Ruiz, Langer, Luciano, Cangas, & Beltrán, 2013). The AAQ-II is a 7-item, 7-point Likert-type scale (7 = *always true*; 1 = *never true*) that measures experiential avoidance. The Spanish translation by Ruiz et al. (2013) showed good psychometric properties and a one-factor structure in Spain. Ruiz, Suárez-Falcón, Cárdenas-Sierra, et al. (2016) showed that this translation of the AAQ-II has similar psychometric properties in Colombian samples. The AAQ-II was administered because a generalized pliance measure might positively correlate with experiential avoidance scores.

2.3.3. Beck Depression Inventory – II (BDI-II; Beck, Steer, & Brown, 1996; Spanish translation by Sanz, Perdigón, & Vázquez, 2003). The BDI-II is a widely used 21-item self-report measure of depressive symptoms in adolescents and adults. Participants are asked to rate how they have felt during the past two weeks on a scale ranging from 0 (*not present*) to 3 (*severe*). The Spanish version by Sanz et al. (2003) presented adequate psychometric properties as well as convergent, discriminant, and predictive validity. The BDI-II was administered because a generalized pliance measure might positively correlate with depressive symptoms.

2.3.4. Dysfunctional Attitude Scales – Revised (DAS-R; de Graaf, Roelofs, & Huibers, 2009; Spanish version by Ruiz et al., 2015; Ruiz, Suárez-Falcón, Barón-Rincón, et al., 2016). The DAS-R comprises 17 items that are rated on a 7-point Likert-type scale (7 = *fully agree*; 1 = *fully disagree*). Items are grouped in two factors: perfectionism/performance evaluation and dependency. The Spanish version of the DAS-R showed excellent internal consistency in both Spanish and Colombian samples. A factor structure with two correlated factors and a second-order factor was obtained. The DAS-R

was administered because a generalized pliance measure might positively correlate with depressogenic schemas as suggested by Ruiz and Odriozola-González (2015, 2016).

2.4. Procedure. Students were invited to participate at the beginning of a regular class. Individuals who provided informed consent were given a questionnaire packet including a sociodemographic form, the instruments listed above, and the 38-item version of the GPQ. Upon completion of the study, participants were debriefed about the aims of the study and thanked for their participation. No incentives were provided for participation.

2.5. Results and conclusions. First, items with low corrected item-total correlations (< .30) were deleted (Items 1, 32, and 36). Afterwards, the following criteria were considered to retain items for the preliminary scale: (a) Items that were previously selected by both experts (11 items), (b) Items that maximized reliability (the 10 items with higher item-total correlation), and (c) Items with maximum criterial validity according to significant and positive correlations with the AAQ-II, BDI-II, and DAS-R (12 items). All items that met one of the criteria were maintained (20 items). As only 2 of the retained items were reverse-scored, we decided to remove them because they usually generate problems to analyze the factor structure of the test (Woods, 2006) and does not prevent respondents from inattentive or acquiescent answering (van Sonderen, Sanderman, & Coyne, 2013). In conclusion, 18 items formed the initial version of the GPQ. These items can be seen in Table 1. Cronbach's alpha was .90.

3. Study 2: Exploratory factor analysis and design of a shorter version

This study conducted an exploratory factor analysis on the 18 items retained in Study 1 with a large sample of Colombian undergraduates. The aim of this was to explore the factor structure of the GPQ and to provide a reduced version of it with approximately half the items. Before applying the GPQ-18 to Colombian samples, a small pilot study was

conducted to explore whether Colombian people experienced difficulties in understanding the GPQ-18 items. Ten Colombian undergraduates did not find any difficulties in understanding the GPQ-18 items; therefore, we decided to apply the original scale without changes.

3.1. Participants. Sample 2 was used in this study. It consisted of 410 undergraduates (83.7% women) from a Colombian university with an age range between 19 and 49 years (M= 22.74, SD= 3.58). All of them were studying Psychology. Only 3.7% of participants reported being in some type psychological or psychiatric treatment and 1.2% were taking some psychotropic medication.

3.2. Instruments

3.2.1. Generalized Pliance Questionnaire – 18 (GPQ-18). The items retained in Study 1 were used in this study (see Table 1).

3.3. Procedure. Participants were invited to participate at the beginning of a regular class. Individuals who provided informed consent were given a sociodemographic form and the GPQ-18. Upon completion of the study, participants were debriefed about the aims of the study and thanked for their participation. No incentives were provided for participation.

3.4. Results and conclusions. The software Factor 10.5 (Lorenzo-Seva & Ferrando, 2006) was used to conduct an exploratory factor analysis (EFA). Missing values were handled by means of the Hot-Deck Multiple Imputation in EFA (Lorenzo-Seva & Van Ginkel, 2016). We selected the unweighted least squares (ULS) extraction method with Direct Oblimin rotation using polychoric correlations. The number of dimensions was determined by means of the optimal implementation of parallel analysis based on minimum rank factor analysis (PA; Timmerman & Lorenzo-Seva, 2011).

Bartlett's statistic was statistically significant (4583(153), $p < .001$), and the result of the Kaiser-Meyer-Olkin (KMO) test was very good (.94). The PA suggested extracting only one factor that accounted for 56.3% of the variance (eigenvalue = 10.13). Table 2 shows that factor loadings were high for all items: from .56 (Item 17) to .87 (Item 13). Likewise, corrected item-total correlations were high for all items (see also Table 2).

INSERT TABLE 2 ABOUT HERE

An assessment of unidimensionality was conducted by computing the Unidimensional Congruence (UniCo), Explained Common Variance (ECV), and Mean of Item Residual Absolute Loadings (MIREAL) indexes. Values larger than .95 and .85 in UniCo and ECV, respectively, suggest that data can be treated as essentially unidimensional, whereas for the MIREAL, a value lower than .30 suggests unidimensionality (Ferrando & Lorenzo-Seva, in press). All values suggested that the data of the GPQ-18 can be treated as unidimensional (UniCo = .98, ECV = .90, MIREAL = .22).

To produce a shorter version of the GPQ suitable to apply in survey research, the first two authors removed 9 of the 18 items based on at least one of the following criteria: (a) factor loadings and corrected item-total correlations below or equal to .65 (Items 7, 14 and 17), (b) avoiding overlapping content across the selected items (Item 1 was removed due to similarity with Item 2; Item 12 was similar to Items 4, 5, and 13; and Item 15 was similar to Item 16), and (c) avoiding items whose content specified private negative experiences (Items 3, 9, 14, and 18) to prevent contamination with items representing negative affect. This shorter version was called GPQ-9.

A new similar EFA was conducted with the items of the GPQ-9. Bartlett's statistic was statistically significant (2269.9(36), $p < .001$), and the result of the Kaiser-Meyer-Olkin (KMO) test was good (.90). The PA suggested extracting only one factor that

accounted for 72.6% of the variance (eigenvalue = 5.94). Factor loadings were high for all items: from .65 (Item 2) to .90 (Item 6). Values of UniCo (.99), ECV (.91) and MIREAL (.20) strongly supported the unidimensionality of the GPQ-9.

In conclusion, the results of the conducted EFAs suggested that the GPQ-18 can be treated as a unidimensional measure. All items showed a relatively good functioning. However, a shorter version of the GPQ consisting of 9 items (i.e., GPQ-9) was designed to facilitate the use of the GPQ in research in which the number of items might be an issue. The GPQ-9 also showed evidence of unidimensionality and very high factor loadings.

4. Study 3: Analysis of the item quality and validity of the GPQ-18 and GPQ-9

4.1. Participants. Samples 3, 4, and 5 were used in this study.

4.1.1. Sample 3. This sample included 762 undergraduates (62% women) with age ranging between 18 and 63 years (M = 21.16, SD = 3.76) from seven universities of Bogotá. Forty-six percent of the sample were Psychology undergraduate students. The other majors included Law, Engineering, Mathematics, and Physics. Only 4.3% of the participants reported being in some type psychological or psychiatric treatment, and 2.9% were taking some psychotropic medication.

4.1.2. Sample 4. The sample consisted of 724 participants (74.4% females) with age ranging between 18 and 88 years (M = 26.11, SD = 8.93). The relative educational level of the participants was 17.8% primary studies (i.e., compulsory education) or mid-level study graduates (i.e., high school or vocational training), 63.8% were undergraduates or college graduates, and 18.4% were currently studying or had a graduate degree. All the participants were Colombian and they responded to an anonymous internet survey distributed through social media. Only 8.4% of participants reported being in some type of psychological or psychiatric treatment, and 5.4% were using psychotropic medication.

4.1.3. Sample 5. It consisted of 101 patients (52 of them were women) with an age range of 18 to 67 years (M = 32.22, SD = 12.09), suffering from emotional disorders such as depression and anxiety disorders (67.3%) or sexual disorders such as erectile dysfunction and premature ejaculation (32.7%). All participants were being evaluated in some private psychological consultation center in Bogotá. Only 5% of the participants reported that they were consuming some psychotropic medication.

4.2. Instruments

4.2.1. Cognitive Fusion Questionnaire (Gillanders et al., 2014; Spanish version by Ruiz, Suárez-Falcón, Riaño-Hernández, & Gillanders, 2017). The CFQ is a 7-item, 7-point Likert-type scale (7 = *always true*; 1 = *never true*) consisting of sentences describing instances of cognitive fusion. The Spanish version by Ruiz, Suárez-Falcón, et al. (2017) has shown similar psychometric properties (overall alpha of .92) and factor structure to the original version in Colombia. Medium to strong positive correlations were expected between the GPQ and CFQ.

4.2.2. Valuing Questionnaire (VQ; Smout, Davies, Burns, & Christie, 2014; Spanish version by Ruiz, Suárez-Falcón, Gil-Luciano, & Riaño-Hernández, submitted). The VQ is a 10-item, 6-point Likert (6 = *completely true*; 0 = *not at all true*), self-report instrument designed to assess general valued living during the past week. The VQ has two subscales: Progress (i.e., enactment of values, including clear awareness of what is personally important and perseverance) and Obstruction (i.e., disruption of valued living due to avoidance of unwanted experience and distraction from values). The Spanish version has shown good psychometric properties. It was expected that the GPQ would show medium to strong negative correlations with Progress and medium to strong positive correlations with Obstruction.

4.2.3. Mindfulness Attention Awareness Scale (MAAS; Brown & Ryan, 2003; Spanish version by Soler et al., 2012). The MAAS is a15-item, 6-point Likert-type scale (6 = *almost never*; 1 = *almost always*) designed to measure the extent to which individuals pay attention during several tasks or, in contrast, behave on "autopilot," without paying enough attention to them. The MAAS does not require familiarity with meditation and it has shown good psychometric properties and a one-factor structure in Colombia (Ruiz, Suárez-Falcón, & Riaño-Hernández, 2016).

4.2.4. Depression, Anxiety, and Stress Scales – 21 (DASS-21; Lovibond & Lovibond, 1995; Spanish version by Daza, Novy, Stanley, & Averill, 2002). The DASS-21 is a 21-item, 4-point Likert-type scale (3 = *applied to me very much, or most of the time*; 0 = *did not apply to me at all*) consisting of sentences describing negative emotional states. It contains three subscales (Depression, Anxiety, and Stress) and has shown good internal consistency and convergent and discriminant validity. The DASS-21 has shown good psychometric properties in Colombia (Ruiz, García-Martín, Suárez-Falcón, & Odriozola-González, 2017). Medium to strong positive correlations were expected between the GPQ and the DASS-21 subscales.

4.2.5. General Health Questionnaire – 12 (Goldberg & Williams, 1988; Spanish version by Rocha, Pérez, Rodríguez-Sanz, Borrell, & Obiols, 2011). The GHQ-12 is a 12-item, 4-point Likert-type scale that is frequently used as screening for psychological disorders. Respondents are asked to indicate the degree to which they have recently experienced a range of common symptoms of distress, with higher scores reflecting greater levels of psychological distress. The GHQ-12 has shown excellent psychometric properties in Colombia (Ruiz, García-Beltrán, & Suárez-Falcón, 2017). Medium to strong positive correlations between the GPQ and GHQ-12 were expected.

4.2.6. Satisfaction with Life Survey (SWLS; Diener, Emmons, Larsen, & Griffin, 1985; Spanish version by Atienza, Pons, Balaguer, & García-Merita, 2000). The SWLS is a 5-item, 7-point Likert-type scale (7 = *strongly agree*; 1 = *strongly disagree*) that measures self-perceived well-being. The SWLS has good psychometric properties and convergent validity, and a one-factor structure in Colombia (Ruiz, Suárez-Falcón, Flórez, et al., submitted). Medium to large negative correlations were expected between the GPQ and SWLS.

4.2.7. Acceptance and Action Questionnaire – II (see description in Study 1).

4.2.8. Dysfunctional Attitude Scales – Revised (see description in Study 1).

4.3. Procedure. In Sample 3, the administration of the questionnaire package was conducted in the participants' classrooms during the beginning of a regular class. Participants in Sample 4 responded to an anonymous internet survey distributed through the Internet and social media. The survey was called "Survey of Psychological Discomfort in Colombia" and was completed on the platform www.typeform.com. After finishing data collection, a general report was sent to the participants who provided an email address for that purpose. Afterwards, personal scores and options for receiving inexpensive psychological treatment were provided when requested by the person. Lastly, participants in Sample 5 responded to the questionnaires during one of the clinical assessment interviews before the beginning of treatment and in the presence of their therapist.

All participants provided informed consent and were given a questionnaire packet. Participants in Sample 3 responded to all questionnaires listed below. Participants in Sample 4 responded to all questionnaires except for the MAAS, GHQ-12, and DAS-R. Participants in Sample 5 responded to all questionnaires except for the MAAS and DAS-R.

Upon completion of the study, participants were debriefed about the aims of the study and thanked for their participation. No incentives were provided for participation.

4.4 Results and conclusions

4.4.1. Psychometric quality of the items and descriptive data. Corrected item-total correlations were performed on SPSS 24© to identify whether any items should be removed because of low discrimination item index (i.e., values below .30). Table 3 shows the descriptive data and corrected item-total correlations for Samples 3, 4, and 5. All items showed good discrimination, with corrected item-total correlations ranging from .52 to .74 in Sample 3, from .59 to .83 in Sample 4, and from .64 to .87 in Sample 5.

INSERT TABLE 3 ABOUT HERE

Mean scores of every sample on the GPQ-18 and GPQ-9 can be seen in Table 4. Alpha coefficients were computed providing 95% confidence intervals (CI) to explore the internal consistency of the GPQ in Samples 3, 4, and 5. Alpha coefficients of the GPQ-18 (.93, .95, and .97 for Samples 1 to 3, respectively) and GPQ-9 (.91, .94, and .95) were excellent.

INSERT TABLE 4 ABOUT HERE

4.4.2. Validity evidence based on internal structure. As the EFA conducted in Study 2 indicated that the GPQ-18 seems to be a unidimensional measure, confirmatory factor analyses (CFA) were conducted with Samples 3 to 5 merged to analyze the fit of a one-factor model both in the GPQ-18 and GPQ-9. A robust weighted least squares (Robust WLS) estimation method with polychoric correlations was adopted to conduct the CFA using LISREL© (version 8.71, Jöreskog & Sörbom, 1999). We computed the chi-square test and the following goodness-of-fit indexes for the one-factor model: (a) the root mean square error of approximation (RMSEA); (b) the comparative fit index (CFI); and (c) the

non-normed fit index (NNFI). According to Kelloway (1998) and Hu and Bentler (1999), RMSEA values of .10 represent a good fit, and values below .05 represent a very good fit to the data. With respect to the CFI and NNFI, values above .90 indicate well-fitting models, and above .95 represent a very good fit to the data.

The overall fit of the one-factor model in the GPQ-18 was good: $\chi^2(135) = 784.35$, $p < .01$; RMSEA = .055, 90% CI [.051, .058], CFI = .96, NNFI = .96. We also computed the p-value for test of close fit (PCLOSE), which provides a one-sided test of the null hypothesis that RMSEA is lower than .05 (RMSEA < .050). The PCLOSE was not statistically significant at $p < .01$ ($p = .012$)[2] for the GPQ-18, which indicates that the fit of the model is close (the null hypothesis is not rejected).

The fit of the one-factor model in the GPQ-9 was slightly worse due to higher RMSEA values, but it was still acceptable: $\chi^2(27) = 327.32$, $p < .01$; RMSEA = .084, 90% CI [.076, .092], CFI = .97, NNFI = .95. However, the PCLOSE was statistically significant ($p < .001$)[3]. Figure 1 depicts the results of the standardized solution of the one-factor model for both versions of the GPQ.

INSERT FIGURE 1 ABOUT HERE

4.4.3. Validity evidence based on relationships with other variables. Pearson correlations between the GPQ and other scales were calculated to assess convergent construct validity. As expected, correlations between the GPQ-18 and GPQ-9 were near perfect in Samples 3 to 5 (.95, .98, and .98, respectively). The correlations obtained by the GPQ-18 and GPQ-9 with other relevant constructs were theoretically coherent and almost identical. Regarding ACT processes, the GPQ showed strong positive correlations with experiential avoidance (i.e., AAQ-II scores) and cognitive fusion (i.e., CFQ scores), which is consistent with the suggestion made by Törneke et al. (2008) and Luciano et al. (2012).

The GPQ also showed significant correlations with valued living as measured by the VQ (medium positive correlations with Obstruction and small to medium negative correlations with Progress).

Medium to strong positive correlations were found between the GPQ and emotional symptoms as measured by the DASS-21 and the GHQ-12. As expected, the GPQ strongly correlated in Sample 1 with dysfunctional schemas as measured by the DAS-R, especially with the Dependency factor. Lastly, small to medium negative correlations were found between the GPQ scores and life satisfaction (i.e., SWLS scores) and mindfulness (i.e., MAAS scores).

INSERT TABLE 5 ABOUT HERE

6. Discussion

6.1. Overview of the results

We have described the development and initial validation of the GPQ, a novel, self-report measure of generalized pliance. Initially, we asked five RFT researchers to write a large pool of items. Based on the judgments of two RFT experts with publications in the conceptualization of RGB, the 77 initial items were reduced to 38 items. After a first administration of the GPQ to participants, an 18-item version (i.e., GPQ-18) was obtained based on expert judgments, with the items that maximized reliability and criterial validity. An EFA was conducted in Study 2 to explore the factor structure of the GPQ-18, and a shorter version was also developed (i.e., GPQ-9). Both GPQ versions showed evidence of being unidimensional measures. Subsequently, CFAs were conducted in Study 3 that supported the one-factor model for both versions of the questionnaire. The GPQ-18 and GPQ-9 showed excellent internal consistency and expected correlations with emotional

symptoms, depressogenic schemas, experiential avoidance, cognitive fusion, valued living, life satisfaction, and mindfulness.

6.2. Main contribution

The experimental analysis of the functional classes of RGB initially suggested by Zettle and Hayes (1982) and then adopted by RFT (Barnes-Holmes et al., 2001) has found significant difficulties, as noted by Kissi et al. (2017). Although self-reports have well-known limitations, they might be a way to select participants with generalized pliance as in Gutiérrez-Martínez et al. (2005) and Wulfert et al. (1994). Indeed, a recent study by O'Connor, Byrne, Ruiz, and McHugh (submitted) has used an English version of the GPQ and correlated its scores with two behavioral tasks that measure insensitivity to contingencies: the Iowa Gambling Task (csIGT; Dymond, Cella, Cooper, & Turnbull, 2010; Turnbull, Evans, Kemish, Park, & Bowman, 2006) and the Wisconsin Card Sorting Test (WCST; Berg, 1948; Grant & Berg, 1948). The results showed that the GPQ scores strongly correlated with both measures of insensitivity to contingencies (r = .56 and .44 for the WCST and csIGT, respectively). These findings support the criterion validity of the GPQ and the expected association between generalized pliance and insensitivity to contingencies.

The GPQ might support research on generalized pliance in several aspects: (a) to conduct longitudinal studies that analyze the role of generalized pliance in psychopathology and wellbeing; (b) to analyze the effect of psychological interventions such as ACT in reducing generalized pliance; (c) to analyze whether generalized pliance might be a potential mediator or moderator of the effect of psychological interventions; and (d) to analyze the effect of procedures aimed at dismantling generalized pliance.

6.3. Limitations and future research

The current study has several limitations. Firstly, women were generally more represented across samples. Secondly, the clinical sample was small. Thirdly, the GPQ was only correlated with other self-reports, which may have inflated the correlations found. Fourthly, the psychometric properties of the GPQ have been reported only in Colombia. Lastly, the GPQ measures generalized pliance, but for some research, it would be interesting to have measures of pliance contextualized to specific situations (e.g., couple relationships, work, etc.). Accordingly, future research should recruit a higher proportion of men and a larger clinical sample. It would also be interesting to correlate GPQ scores with behavioral tasks measuring insensitivity to contingencies as in O'Connor et al. (submitted) or a generalized pliance version of the Implicit Relational Assessment Procedure (Barnes-Holmes et al., 2006). Lastly, further studies should explore the psychometric properties of the GPQ in other countries and develop context-specific measures of pliance.

6.4. Conclusions

This study presented the development and validation of the GPQ, an apparently sound measure of generalized pliance. We hope the GPQ potentiates the research on functional classes of RGB.

[1]Note that RFT specifies another type of rule-following called augmenting that is due to relational networks that alter the reinforcing functions of events (Barnes-Holmes et al., 2001). However, because augmenting is rarely seen in its pure form but instead interacting with pliance or tracking (Luciano et al., 2012; Törneke et al., 2008; Zettle & Hayes, 1982), we do not mention it in the text.

[2]Note that with such as large sample (N = 1586), the likelihood of obtaining statistically significant results is high.

[3]Modification indices recommended allowing error terms between Items 1-2, 5-9, and 6-7 to correlate. When doing so, the fit of the GPQ-9 improved (RMSEA = .055, NNFI = .98, CFI = .99).

References

Atienza, F. L., Pons, D., Balaguer, I., & García-Merita, M. (2000). Propiedades psicométricas de la Escala de Satisfacción con la Vida en adolescentes [Psychometric properties of the Satisfaction with Life Scale in adolescents]. *Psicothema, 12*, 314-319.

Barnes-Holmes, D., Barnes-Holmes, Y., Power, P., Hayden, E., Milne, R., & Stewart, I. (2006). Do you really know what you believe? Developing the Implicit Relational Assessment Procedure (IRAP) as a direct measure of implicit beliefs. *The Irish Psychologist, 32*, 169-177

Barnes-Holmes, D., O'Hora, D., Roche, B., Hayes, S. C., Bissett, R. T., & Liddy, F. (2001). Understanding and verbal regulation. In S. C. Hayes, D. Barnes-Holmes, & B. Roche (Eds.), *Relational frame theory. A post-Skinnerian account of human language and cognition* (pp. 103-117). New York: Plenum Press.

Baruch, D. E., Kanter, J. W., Busch, A. M., Richardson, J. V., & Barnes-Holmes, D. (2007). The differential effect of instructions on dysphoric and nondysphoric persons. *The Psychological Record, 57*, 543-554.

Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Beck Depression Inventory-II (BDI-II)*. San Antonio, TX: Psychological Corporation.

Berg, E. A. (1948). A simple objective technique for measuring flexibility in thinking. *Journal of General Psychology, 39*, 15-22.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., . . . Zettle, R. D. (2011). Preliminary psychometric properties of the Acceptance and Action Questionnaire – II: A revised measure of psychological inflexibility and experiential avoidance. *Behavior Therapy, 42*, 676-688.

Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology, 84*, 822-848.

Daza, P., Novy, D. M., Stanley, M., & Averill, P. (2002). The Depression Anxiety Stress Scale-21: Spanish translation and validation with a Hispanic sample. *Journal of Psychopathology and Behavioral Assessment, 24*, 195-205.

de Graaf, L. E., Roelofs, J., & Huibers, M. J. (2009). Measuring dysfunctional attitudes in the general population: The Dysfunctional Attitude Scale (form A) revised. *Cognitive Therapy and Research, 33*, 345-355.

Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The Satisfaction with Life Scale. *Journal of Personality Assessment, 49*, 71-75.

Dymond, S., Cella, M., Cooper, A., & Turnbull, O. (2010). The contingency-shifting variant Iowa Gambling Task: An investigation with young adults. *Journal of Clinical and Experimental Neuropsychology*, *32*, 239–248.

Ferrando, P. J., & Lorenzo-Seva, U. (in press). Assessing the quality and appropriateness of factor solutions and factor score estimates in exploratory item factor analysis. *Educational and Psychological Measurement*.

Gillanders, D. T., Bolderston, H., Bond, F. W., Dempster, M., Flaxman, P. E., Campbell, L., … Remington, B. (2014). The development and initial validation of the Cognitive Fusion Questionnaire. *Behavior Therapy*, *45*, 83-101.

Goldberg, D., & Williams, P. (1988). *A user's guide to the General Health Questionnaire*. Windsor, UK: NFER-Nelson.

Grant, D. A., & Berg, E. A. (1948). A behavioral analysis of degree of reinforcement and ease of shifting to new responses in a Weigl-type card-sorting problem. *Journal of Experimental Psychology*, *38*, 404-411.

Gutiérrez-Martínez, O., Luciano, C., & Valdivia-Salas, S. (2005). Change of self-efficacy verbalizations and derivation of functions. *Psicothema*, *17*, 614-619.

Hayes, S. C., Barnes-Holmes, D., & Roche, B. (Eds.). (2001). Relational frame theory: A post-Skinnerian account of human language and cognition. New York: Plenum Press.

Hayes, S. C., Brownstein, A. J., Zettle, R. D., Rosenfarb, I., & Korn, Z. (1986). Rule-governed behavior and sensitivity to changing consequences of responding. *Journal of Experimental Analysis of Behavior, 45*, 237-256.

Hayes, S. C., Gifford, E. V., & Hayes, G. J. (1998). Moral behavior and the development of verbal regulation. *The Behavior Analyst, 21*, 253-279.

Hayes, S. C., Strosahl, K. D., & Wilson, K. G. (1999). *Acceptance and commitment therapy: An experiential approach to behavior change*. New York: Guilford Press.

Hayes, S. C., Wilson, K. G., Gifford, E. V., Follette, V. M., & Strosahl, K. (1996). Experiential avoidance and behavioral disorders: A functional dimensional approach to diagnosis and treatment. *Journal of Consulting and Clinical Psychology, 64*, 1152-1168.

Hayes, S. C., Zettle, R., & Rosenfarb, I. (1989). Rule-following. In S.C. Hayes (Ed.), *Rule governed behavior: Cognition, contingencies, and instructional control* (pp. 191-220). New York: Plenum Press

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling, 6*, 1-55.

Jöreskog, K. G., & Sörbom, D. (1999). *LISREL 8.30*. Chicago, IL: Scientific Software International.

Kelloway, E. K. (1998). *Using LISREL for structural equation modeling: A researcher's guide*. Thousand Oaks, CA: Sage.

Kissi, A., Hughes, S., Mertens, G., Barnes-Holmes, D., De Houwer, J., & Crombez, G. (2017). A systematic review of pliance, tracking, and augmenting. *Behavior Modification, 41,* 683-707.

Lorenzo-Seva, U., & Ferrando, P. J. (2006). FACTOR: A computer program to fit the exploratory factor analysis model. *Behavioral Research Methods, 38*, 88-91.

Lorenzo-Seva, U., & Van Ginkel, J. R. (2016). Multiple imputation of missing values in exploratory factor analysis of multidimensional scales: Estimating latent trait scores. *Anales de Psicología, 32*, 596-608.

Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, *33,* 335-343.

Luciano, C., Valdivia-Salas, S., Cabello-Luque, F., & Hernández, M. (2009). Developing self-directed rules. In R. A. Rehfeldt & Y. Barnes-Holmes (Eds.), *Derived relational responding. Applications for learners with autism and other developmental disabilities* (pp. 335-352). Oakland, CA: New Harbinger.

Luciano, C., Valdivia-Salas, S., & Ruiz, F. J. (2012). The self as the context for rule-governed behavior. In L. McHugh & I. Stewart (Eds.), *The self and perspective taking: Research and applications* (pp. 143-160). Oakland, CA: Context Press.

Matthews, B. A., Shimoff, E., Catania, C., & Sagvolden, T. (1977). Uninstructed human responding: Sensitivity to ratio and interval contingencies. *Journal Experimental Analysis of Behavior, 27,* 453-467.

McAuliffe, D., Hughes, S., & Barnes-Holmes, D. (2014). The dark-side of rule governed behavior: An experimental analysis of problematic rule-following in an adolescent population with depressive symptomatology. *Behavior Modification, 38*, 587-613.

Monestès, J. L., Greville, W., Hooper, N. (2017). Derived insensitivity: Rule-based insensitivity to contingencies propagates through equivalence. *Learning and Motivation, 59*, 55-63.

Monestès, J. L., Villatte, M., Stewart, I., & Loas, G. (2014). Rule-based insensitivity and delusion maintenance in schizophrenia. *The Psychological Record, 64*, 329-338.

Rocha, K., Pérez, K., Rodríguez-Sanz, M., Borrell, C., & Obiols, J. E. (2011). Propiedades psicométricas y valores normativos del General Health Questionnaire (GHQ-12) en población española [Psychometric properties and normative scores of the General Health Questionnaire (GHQ-12) in Spanish population]. *International Journal of Clinical and Health Psychology, 11*, 125-139.

Ruiz, F. J., García-Beltrán, D. M., & Suárez-Falcón, J. C. (2017). General Health Questionnaire-12 validity in Colombia and factorial equivalence between clinical and nonclinical participants. *Psychiatry Research, 256*, 53-58.

Ruiz, F. J., García-Martín, M. B., Suárez-Falcón, J. C., & Odriozola-González, P. (2017). The hierarchical factor structure of the Spanish version of Depression Anxiety and

Stress Scale-21. *International Journal of Psychology and Psychological Therapy, 17,* 97-105.

Ruiz, F. J., Langer, A. I., Luciano, C., Cangas, A. J., & Beltrán, I. (2013). Measuring experiential avoidance and psychological inflexibility: The Spanish translation of the Acceptance and Action Questionnaire. *Psicothema*, *25,* 123-129.

Ruiz, F. J., & Odriozola-González, P. (2015). Comparing cognitive, metacognitive, and acceptance and commitment therapy models of depression: A longitudinal study survey. *The Spanish Journal of Psychology, 18*, e39, 1-9.

Ruiz, F. J., & Odriozola-González, P. (2016). The role of psychological inflexibility in Beck's cognitive model of depression in a sample of undergraduates. *Anales de Psicología, 32*, 441-447.

Ruiz, F. J., Suárez-Falcón, J. C., Barón-Rincón, D., Barrera, A., Martínez, A., & Peña, A. (2016). Factor structure and psychometric properties of the Dysfunctional Attitude Scale Revised in Colombian undergraduates. *Revista Latinoamericana de Psicología, 48*, 81-87.

Ruiz, F. J., Suárez-Falcón, J. C., Cárdenas-Sierra, S., Durán, Y. A., Guerrero, K., & Riaño-Hernández, D. (2016). Psychometric properties of the Acceptance and Action Questionnaire – II in Colombia. *The Psychological Record, 66,* 429-437.

Ruiz, F. J., Suárez-Falcón, J. C., Odriozola-González, P., Barbero-Rubio, A., López-López, J. C., Eisenbeck, N., … & Gil, E. (2015). Factor structure and psychometric properties of the Spanish version of the Dysfunctional Attitude Scale-Revised. *Behavioral Psychology, 23,* 287-303.

Ruiz, F. J., Suárez-Falcón, J. C., & Riaño-Hernández, D. (2016). Psychometric properties of the Mindful Attention Awareness Scale in undergraduates. *Suma Psicológica, 23,* 18-24.

Ruiz, F. J., Suárez-Falcón, J. C., Riaño-Hernández, D., & Gillanders, D. (2017). Psychometric properties of the Cognitive Fusion Questionnaire in Colombia. *Revista Latinoamericana de Psicología, 49,* 80-87.

Sanz, J., Perdigón, A. L., & Vázquez, C. (2003). Adaptación española del Inventario para la Depresión de Beck-II (BDI-II): Propiedades psicométricas en población general [Spanish adaptation of the Beck Depression Inventory-II (BDI-II): Psychometric properties in general population]. *Clínica y Salud, 14*, 249-280.

Skinner, B. F. (1957). *Verbal behavior*. New York: Appelton-Century-Crofts.

Skinner, B. F. (1966). An operant analysis of problem solving. In B. Kleinmuntz (Ed.), *Problem solving: Research, method and theory* (pp. 133-171). New York: John Wiley & Sons.

Smout, M., Davies, M., Burns, N., & Christie, A. (2014). Development of the Valuing Questionnaire (VQ). *Journal of Contextual Behavioral Science, 3*, 164-172.

Soler, J., Tejedor, R., Feliu-Soler, A., Segovia, P., Carlos, J., Cebolla, A. J., ... & Pérez, V. (2012). Propiedades psicométricas de la versión española de la escala Mindful Attention Awareness Scale (MAAS) [Psychometric properties of the Spanish version of the Mindful Attention Awareness Scale (MAAS)]. *Actas Españolas de Psiquiatría, 40,* 18-25.

Timmerman, M. E., & Lorenzo-Seva, U. (2011). Dimensionality assessment of ordered polytomous items with parallel analysis. *Psychological Methods, 16,* 209-220.

Törneke, N., Luciano, C., & Valdivia-Salas, S. (2008). Rule-governed behavior and psychological problems. *International Journal of Psychology and Psychological Therapy, 8*, 141-156.

Turnbull, O., Evans, C., Kemish, K., Park, S., & Bowman, C. (2006). A novel set-shifting modification of the Iowa gambling task: Flexible emotion-based learning in schizophrenia. *Neuropsychology*, *20*, 290-298.

Van Sonderen, E., Sanderman, R., & Coyne, J. C. (2013). Ineffectiveness of reverse wording of questionnaire items: Let's learn from cows in the rain. *PLOS ONE, 8*(9), e68967

Vaughan, M. (1989). Rule-governed behavior in behavior analysis. In S. C. Hayes (Ed.), *Rule-governed behavior: Cognition, contingencies, and instructional control* (pp. 97-118). New York: Plenum Press.

Wilson, K. G., & Luciano, M. C. (2002). *Terapia de aceptación y compromiso (ACT). Un tratamiento conductual orientado a los valores* [Acceptance and commitment therapy (ACT). A value-oriented behavior treatment]. Madrid: Pirámide.

Woods, C. M. (2006). Careless responding to reverse-worded items: Implications for confirmatory factor analysis. *Journal of Psychopathology and Behavioral Assessment, 28*, 186.

Wulfert, E., Greenway, D. E., Farkas, P., Hayes, S. C., & Dougher, M. J. (1994). Correlation between self-reported rigidity and rule-governed insensitivity to operant contingencies. *Journal of Applied Behavior Analysis, 27*, 659-671.

Zettle, R. D. (2007). *ACT for depression. A clinician's guide to using Acceptance & Commitment Therapy in treating depression*. Oakland, CA: New Harbinger.

Zettle, R. D., & Hayes, S. C. (1982). Rule-governed behavior: A potential theoretical framework for cognitive-behavior therapy. *Advances in Cognitive-Behavioral Research and Therapy, 1*, 73-118.

Table 1

Initial Pool of Items of the GPQ and Selected Ones (in Bold). Reverse-Scored Items Are in Italics

Items	Experts selection	Corrected item-total correlation	*r* with BDI-II	*r* with AAQ-II	*r* with DAS-R
1. *Me gusta pasar desapercibido y no compartir mis éxitos.*		-.04	-.16	-.17	-.02
2. Mi estado de ánimo depende en gran medida de cómo me consideran mis amigos.		**.57**	**.37****	**.30****	**.24****
3. Pido consejo antes de hacer cualquier cosa importante.		.50	.22*	.35**	.33**
4. No merece la pena hacer cosas por los demás si no te las reconocen		.35	.19*	.33**	.32**
5. En la vida es importante que la gente me quiera.		.55	.10	.19*	.30**
6. Me importa mucho lo que piensan mis amigos de mí.		**.62**	**.27****	**.29****	**.39****
7. Si otros no están de acuerdo conmigo, me planteo cambiar de opinión.		.43	.17*	.22*	.30**
8. Si otros no reconocen mi trabajo, siento que el esfuerzo no valió la pena.		.50	**.38****	**.38****	**.37****
9. *Mi autoestima no depende de la opinión de las personas que me rodean*.	**YES**	.47	**.33****	**.34****	**.26****
10. *En cada momento hago lo que creo oportuno, independientemente de lo que demás me digan*.		.43	.15	.28**	.29**
11. Es muy importante para mí sentirme aceptado por los demás.		**.64**	.30**	.22*	.23*
12. Necesito que la gente me valore para poder ser feliz.	**YES**	.54	.20*	.27**	.44**
13. Me disgusta mucho que una persona importante para mí no esté de acuerdo conmigo.		.43	.11	.25**	.19*
14. Mi valía como persona depende de lo que los demás piensen y digan de mí.	**YES**	**.66**	**.34****	**.34****	**.42****
15. Mi principal objetivo en la vida es ser reconocido y respetado por los que me rodean.		.48	**.30****	**.29****	**.27****
16. Mis decisiones se ven muy influidas por las opiniones de otras personas.	**YES**	**.54**	**.28****	**.35****	**.29****
17. Me preocupo mucho por dar una imagen perfecta de mí mismo.	**YES**	.45	**.24****	**.28****	**.33****
18. Carecería de sentido lo que hago si los demás no pudieran verlo.	**YES**	.52	**.27****	**.46****	**.44****
19. *Puedo ser feliz aunque no tenga el aprecio de las personas que me rodean*.	**YES**	.40	.24**	.27**	.20*
20. *Tomo mis decisiones independientemente de lo que piensen los demás.*		.47	.17	.28**	.15
21. *Me es indiferente lo que los demás piensen de mí*.		.53	.23*	.19*	.22*
22. *Decido cuál es mi camino en la vida sin verme influido por los demás.*		.52	.16	.28**	.15

23. *Mi modo de actuar es independiente de lo que piense la gente*.		.50	.16	.26**	.23*
24. Sólo merece la pena trabajar duro si los demás te lo reconocen.		.39	**.30****	**.39****	**.36****
25. Es fundamental que los demás tengan una buena impresión de mí.		**.62**	.21*	.35**	.39**
26. La felicidad depende de que los demás apoyen mis progresos.		.53	.21*	.35**	.39**
27. *La única opinión sobre mí que tengo en cuenta es la mía propia*.		.46	.14	.13	.13
28. Para estar bien conmigo mismo necesito que los demás me den su aprobación.	**YES**	**.64**	.20*	.32**	.39**
29. No soporto decepcionar las expectativas que los demás tienen puestas en mí.	**YES**	.47	**.28****	**.28****	**.42****
30. Necesito que los demás comprendan mis motivos antes de tomar una decisión.	**YES**	.52	.19*	.27**	.28**
31. Tengo más en cuenta el consejo de los demás que mi propio criterio para tomar una decisión.		**.57**	.18*	.27**	.28**
32. Está mal creerse que uno es mejor que los demás.		.08	.02	.08	-.01
33. *Persigo mis objetivos aunque otros consideren que estoy equivocado*.		.51	.14	.21*	.28**
34. Evito discutir con la gente para que no se enfaden conmigo.		.41	.13	.31**	.25**
35. *Defiendo mis puntos de vista aunque a los demás no les gusten.*		.32	.14	.18*	.23**
36. *Es un error querer llevarse bien con todo el mundo*.		.06	-.06	-.08	-.01
37. Antes de hacer cosas importantes, pido consejo a los demás.		**.56**	.23*	.25**	.32**
38. Dejo de hacer cosas por miedo a las críticas.	**YES**	**.61**	**.31****	**.39****	**.36****

*$p < .05$, **$p < .01$. AAQ-II = Acceptance and Action Questionnaire – II; BDI-II = Beck Depression Inventory – II; DAS-R = Dysfunctional Attitude Scale – Revised.

Table 2

Item Description of the GPQ-18, English Translation (in italics), Factor Loadings and Corrected Item-Total Correlations in Study 2. The Items Selected for the GPQ-9 Are Presented in Bold

Items	Factor loading	Corrected item-total correlation
1. Mi estado de ánimo depende en gran medida de cómo me consideran mis amigos [*My mood depends on what my friends think of me*]	.68	.60
2. Me importa mucho lo que piensan mis amigos de mí [*I care a lot about what my friends think of me*]	**.68**	**.63**
3. Si otros no reconocen mi trabajo, siento que el esfuerzo no valió la pena [*If other people don't value my work, I feel as though it was not worth the effort*]	.65	.58
4. Es muy importante para mí sentirme aceptado por los demás [*It's very important for me to feel accepted by other people*]	**.77**	**.72**
5. Necesito que la gente me valore para poder ser feliz [*In order to be happy, I need people to value me*]	**.81**	**.74**
6. Mi valía como persona depende de lo que los demás piensen y digan de mí [*My self-worth depends on what other people think and say about me*]	**.85**	**.76**
7. Mi principal objetivo en la vida es ser reconocido y respetado por los que me rodean [*My main goal in life is to be recognized and respected by those around me*]	.70	.65
8. Mis decisiones se ven muy influidas por las opiniones de otras personas [*My decisions are very much influenced by other people's opinions*]	**.75**	**.68**
9. Me preocupo mucho por dar una imagen perfecta de mí mismo [*I worry a lot about presenting a perfect image of myself*]	.73	.67
10. Carecería de sentido lo que hago si los demás no pudieran verlo [*What I do would be pointless if people couldn't see it*]	**.82**	**.72**
11. Sólo merece la pena trabajar duro si los demás te lo reconocen [*Hard work is only worth it if people recognize it*]	**.79**	**.68**
12. Es fundamental que los demás tengan una buena impresión de mí [*It's essential that other people have a good impression of me*]	.72	.68
13. Para estar bien conmigo mismo necesito que los demás me den su aprobación [*To feel good about myself, I need other people's approval*]	**.87**	**.77**
14. No soporto decepcionar las expectativas que los demás tienen puestas en mí [*I can't disappoint other people's expectation of me*]	.62	.60
15. Necesito que los demás comprendan mis motivos antes de tomar una decisión [*Before making a decisión, I need other people to understand my reasons*]	.76	.72
16. Tengo más en cuenta el consejo de los demás que mi propio criterio para tomar una decisión [*When making a decision, I value other people's advice more than my own opinion*]	**.71**	**.64**
17. Antes de hacer cosas importantes, pido consejo a los demás [*Before doing important things, I ask for other people's advice*]	.56	.53
18. Dejo de hacer cosas por miedo a las críticas [*Fear of criticism prevents me from doing things*]	.68	.62

Note. The back-translation method was followed to obtain the English version of the GPQ for the study by O'Connor, Byrne, Ruiz, and McHugh (submitted).

Table 3

Corrected Item-Total Correlations and Descriptive Data

	Corrected item-total correlations			*M* (*SD*)		
	Sample 3	Sample 4	Sample 5	Sample 3	Sample 4	Sample 5
Item 1	.63	.70	.82	2.17 (1.31)	2.52 (1.53)	2.95 (1.85)
Item 2	.68	.73	.83	2.59 (1.42)	3.00 (1.61)	3.35 (2.01)
Item 3	.63	.70	.79	2.98 (1.57)	3.29 (1.66)	3.45 (2.01)
Item 4	.74	.78	.80	2.87 (1.57)	3.40 (1.71)	3.83 (1.88)
Item 5	.72	.81	.75	2.29 (1.37)	2.85 (1.66)	3.21 (1.95)
Item 6	.73	.81	.87	1.94 (1.23)	2.35 (1.48)	2.61 (1.64)
Item 7	.52	.61	.64	2.84 (1.70)	2.99 (1.73)	3.06 (1.86)
Item 8	.71	.76	.80	2.42 (1.40)	2.81 (1.48)	3.15 (1.98)
Item 9	.65	.64	.67	2.95 (1.74)	3.32 (1.77)	3.55 (2.03)
Item 10	.64	.74	.82	2.18 (1.33)	2.54 (1.56)	2.64 (1.69)
Item 11	.65	.73	.85	1.92 (1.28)	2.21 (1.45)	2.44 (1.71)
Item 12	.64	.69	.79	2.86 (1.55)	3.23 (1.71)	3.42 (2.06)
Item 13	.71	.83	.86	1.90 (1.20)	2.35 (1.46)	2.60 (1.76)
Item 14	.58	.68	.75	3.07	3.34	3.78

				(1.70)	(1.77)	(1.97)
Item 15	.61	.71	.81	2.64	3.03	3.51
				(1.53)	(1.67)	(2.05)
Item 16	.65	.73	.79	2.19	2.52	3.15
				(1.28)	(1.48)	(2.07)
Item 17	.53	.59	.74	3.21	3.44	3.82
				(1.57)	(1.57)	(2.09)
Item 18	.65	.69	.76	2.64	2.92	3.30
				(1.62)	(1.65)	(2.15)

Table 4

Alpha Coefficients and Descriptive Data across Samples for the GPQ-18 and GPQ-9

	Samples 3 Undergraduates (*N* = 762)	Samples 4 General Population (*N* = 724)	Sample 5 Clinical (*N* = 101)
		GPQ-18	
Alpha	.93	.95	.97
95% CI	[.93, .94]	[.95, .96]	[.96, .98]
Mean score	45.66	52.12	57.82
(*SD*)	(18.22)	(21.73)	(28.05)
		GPQ-9	
Alpha	.91	.94	.95
95% CI	[.90, .92]	[.93, .94]	[.94, .97]
Mean score	20.34	24.03	26.98
(*SD*)	(9.32)	(11.34)	(14.18)

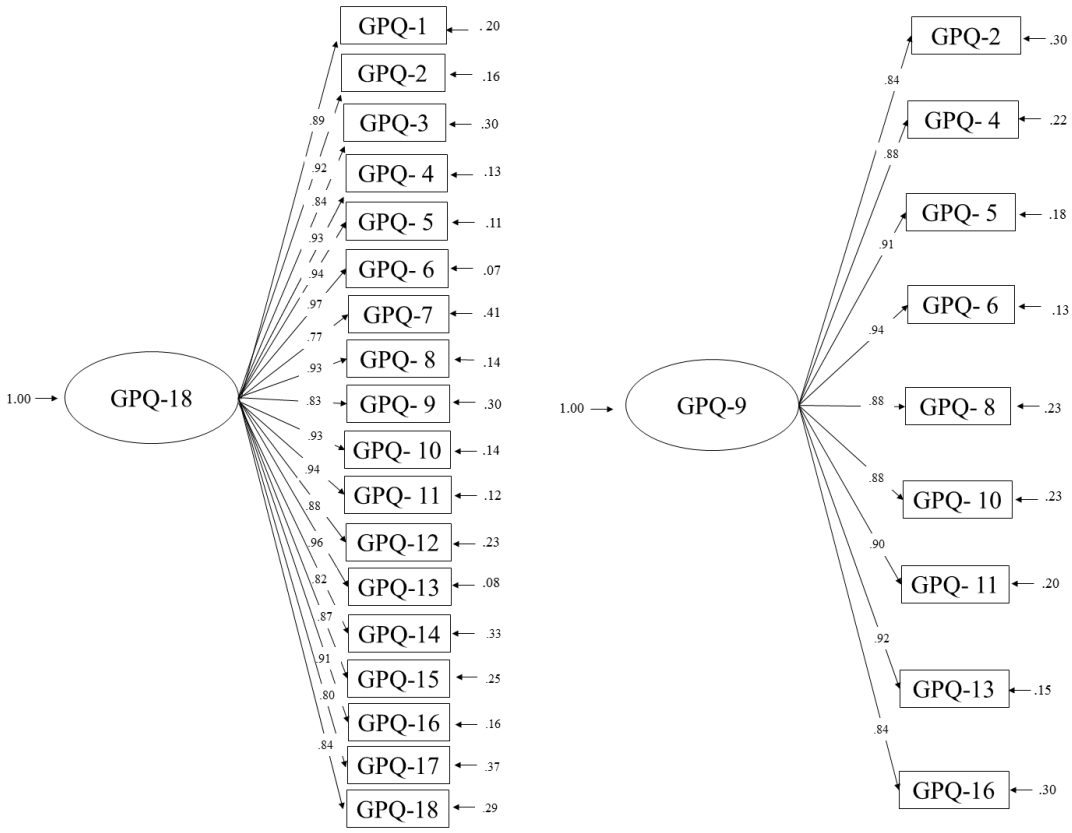
Table 5

Pearson Correlations between the GPQ-18 and GPQ-9 and Other Relevant Self-report Measures

Measures	S	*N*	*r* with GPQ-18	*r* with GPQ-9
GPQ-18	3	762	--	.95***
	4	724	--	.98***
	5	101	--	.98***
AAQ-II	3	762	.48***	.47***
	4	724	.54***	.53***
	5	101	.50***	.48***
CFQ	3	762	.51***	.49***
	4	724	.56***	.55***
	5	101	.54***	.51***
VQ - Progress	3	762	-.11**	-.14***
	4	724	-.27***	-.28***
	5	101	-.33**	-.34**
VQ - Obstruction	3	762	.31***	.30***
	4	724	.49***	.47***
	5	101	.41***	.38***
DASS – Depression	3	762	.39***	.39***
	4	724	.46***	.45***
	5	101	.51***	.51***
DASS - Anxiety	3	762	.35***	.32***
	4	724	.40***	.39***
	5	101	.57***	.56***
DASS – Stress	3	762	.35***	.31***
	4	724	.39***	.37***
	5	101	.48***	.47***
SWLS	3	762	-.23***	-.25***
	4	724	-.30***	-.31***
	5	101	-.36***	-.35***

GHQ-12	3	762	.29***	.27***
	5	101	.43***	.43***
MAAS	3	762	-.25***	-.25***
DAS-R Total	3	762	.57***	.57***
DAS-R Perfectionism	3	762	.50***	.49***
DAS-R Dependency	3	762	.57***	.58***

Figure 1. Standardized solution of the GPQ-18 and GPQ-9 one-factor models conducted with Samples 3 to 5.



Appendix A. Spanish version of the GPQ-18.

Debajo encontrará una lista de afirmaciones. Por favor, puntúe en qué grado cada afirmación ES VERDAD PARA USTED haciendo un círculo en los números de al lado. Utilice la siguiente escala para hacer su elección.

1	2	3	4	5	6	7
Nunca es verdad	**Muy raramente es verdad**	**Raramente es verdad**	**A veces es verdad**	**Frecuentemente es verdad**	**Casi siempre es verdad**	**Siempre es verdad**

1.	Mi estado de ánimo depende en gran medida de cómo me consideran mis amigos.	1	2	3	4	5	6	7
2.	Me importa mucho lo que piensan mis amigos de mí.	1	2	3	4	5	6	7
3.	Si otros no reconocen mi trabajo, siento que el esfuerzo no valió la pena.	1	2	3	4	5	6	7
4.	Es muy importante para mí sentirme aceptado por los demás.	1	2	3	4	5	6	7
5.	Necesito que la gente me valore para poder ser feliz.	1	2	3	4	5	6	7
6.	Mi valía como persona depende de lo que los demás piensen y digan de mí.	1	2	3	4	5	6	7
7.	Mi principal objetivo en la vida es ser reconocido y respetado por los que me rodean.	1	2	3	4	5	6	7
8.	Mis decisiones se ven muy influidas por las opiniones de otras personas.	1	2	3	4	5	6	7
9.	Me preocupo mucho por dar una imagen perfecta de mí mismo.	1	2	3	4	5	6	7
10.	Carecería de sentido lo que hago si los demás no pudieran verlo.	1	2	3	4	5	6	7
11.	Sólo merece la pena trabajar duro si los demás te lo reconocen.	1	2	3	4	5	6	7
12.	Es fundamental que los demás tengan una buena impresión de mí.	1	2	3	4	5	6	7
13.	Para estar bien conmigo mismo necesito que los demás me den su aprobación.	1	2	3	4	5	6	7
14.	No soporto decepcionar las expectativas que los demás tienen puestas en mí.	1	2	3	4	5	6	7
15.	Necesito que los demás comprendan mis motivos antes de tomar una decisión.	1	2	3	4	5	6	7
16.	Tengo más en cuenta el consejo de los demás que mi propio criterio para tomar una decisión.	1	2	3	4	5	6	7
17.	Antes de hacer cosas importantes, pido consejo a los demás.	1	2	3	4	5	6	7
18.	Dejo de hacer cosas por miedo a las críticas.	1	2	3	4	5	6	7

Appendix B. Spanish version of the GPQ-9.

Debajo encontrará una lista de afirmaciones. Por favor, puntúe en qué grado cada afirmación ES VERDAD PARA USTED haciendo un círculo en los números de al lado. Utilice la siguiente escala para hacer su elección.

1	2	3	4	5	6	7
Nunca es verdad	**Muy raramente es verdad**	**Raramente es verdad**	**A veces es verdad**	**Frecuentemente es verdad**	**Casi siempre es verdad**	**Siempre es verdad**

1.	Me importa mucho lo que piensan mis amigos de mí.	1	2	3	4	5	6	7
2.	Es muy importante para mí sentirme aceptado por los demás.	1	2	3	4	5	6	7
3.	Necesito que la gente me valore para poder ser feliz.	1	2	3	4	5	6	7
4.	Mi valía como persona depende de lo que los demás piensen y digan de mí.	1	2	3	4	5	6	7
5.	Mis decisiones se ven muy influidas por las opiniones de otras personas.	1	2	3	4	5	6	7
6.	Carecería de sentido lo que hago si los demás no pudieran verlo.	1	2	3	4	5	6	7
7.	Sólo merece la pena trabajar duro si los demás te lo reconocen.	1	2	3	4	5	6	7
8.	Para estar bien conmigo mismo necesito que los demás me den su aprobación.	1	2	3	4	5	6	7
9.	Tengo más en cuenta el consejo de los demás que mi propio criterio para tomar una decisión.	1	2	3	4	5	6	7

Appendix C. English version of the GPQ-18. The back-translation method was followed to obtain the English version of the GPQ for the study by O'Connor, Byrne, Ruiz, and McHugh (submitted).

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	**very seldom true**	**seldom true**	**sometimes true**	**frequently true**	**almost always true**	**always true**

1.	My mood depends on what my friends think of me.	1	2	3	4	5	6	7
2.	I care a lot about what my friends think of me.	1	2	3	4	5	6	7
3.	If other people don't value my work, I feel as though it was not worth the effort.	1	2	3	4	5	6	7
4.	It's very important for me to feel accepted by other people.	1	2	3	4	5	6	7
5.	In order to be happy, I need people to value me.	1	2	3	4	5	6	7
6.	My self-worth depends on what other people think and say about me.	1	2	3	4	5	6	7
7.	My main goal in life is to be recognized and respected by those around me.	1	2	3	4	5	6	7
8.	My decisions are very much influenced by other people's opinions.	1	2	3	4	5	6	7
9.	I worry a lot about presenting a perfect image of myself.	1	2	3	4	5	6	7
10.	What I do would be pointless if people couldn't see it.	1	2	3	4	5	6	7
11.	Hard work is only worth it if people recognize it.	1	2	3	4	5	6	7
12.	It's essential that other people have a good impression of me.	1	2	3	4	5	6	7
13.	To feel good about myself, I need other people's approval.	1	2	3	4	5	6	7
14.	I can't disappoint other people's expectations of me.	1	2	3	4	5	6	7
15.	Before making a decision, I need other people to understand my reasons.	1	2	3	4	5	6	7
16.	When making a decision, I value other people's advice more than my own opinion.	1	2	3	4	5	6	7
17.	Before doing important things, I ask for other people's advice.	1	2	3	4	5	6	7
18.	Fear of criticism prevents me from doing things.	1	2	3	4	5	6	7

Appendix D. English version of the GPQ-9. The back-translation method was followed to obtain the English version of the GPQ for the study by O'Connor, Byrne, Ruiz, and McHugh (submitted).

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1	2	3	4	5	6	7
never true	**very seldom true**	**seldom true**	**sometimes true**	**frequently true**	**almost always true**	**always true**

1.	I care a lot about what my friends think of me.	1	2	3	4	5	6	7
2.	It's very important for me to feel accepted by other people.	1	2	3	4	5	6	7
3.	In order to be happy, I need people to value me.	1	2	3	4	5	6	7
4.	My self-worth depends on what other people think and say about me.	1	2	3	4	5	6	7
5.	My decisions are very much influenced by other people's opinions.	1	2	3	4	5	6	7
6.	What I do would be pointless if people couldn't see it.	1	2	3	4	5	6	7
7.	Hard work is only worth it if people recognize it.	1	2	3	4	5	6	7
8.	To feel good about myself, I need other people's approval.	1	2	3	4	5	6	7
9.	When making a decision, I value other people's advice more than my own opinion.	1	2	3	4	5	6	7