Preliminary Data about the Validation of a Self-Report for the Assessment of Interpersonal Guilt: The Interpersonal Guilt Rating Scales–15s (IGRS-15s)

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Abstract: The aim of this article is to present validation data about a self-report rating scale for the assessment of interpersonal guilt according to Control-Mastery Theory (CMT; Silbershatz, 2005; Weiss, 1993; Weiss, Sampson, & The Mount Zion Psychotherapy Research Group, 1986), the Interpersonal Guilt Rating Scale–15s (IGRS-15s).

In order to perform the validation of this tool in an Italian sample we have collected a sample of 645 nonclinical subjects. They had to complete the IGRS-15s, the Scale for the Measurement of the Impending Punishment (SMIP; Caprara et al., 1990), the Interpersonal Guilt Questionnaire–67 (IGQ-67; O'Connor et al., 1997), the Psychological General Well-Being Index (PGWBI; Dupuy, 1984), and the Affective Neuroscience Personality Scales (ANPS; Davis, Panksepp, & Normansell, 2003), together with an ad-hoc questionnaire for collecting demographic data, the Socio-Demographical Schedule.

We have performed a confirmatory factor analysis to verify if the four-factor solution based on CMT and replicated in previous research (Gazzillo et al., 2017) was confirmed. Then, we checked the retest reliability of IGRS-15s after four weeks in a random subsample of 54 subjects. In order to assess its concurrent and discriminant validity, we calculated the correlations between IGRS-

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15s assessment and SMIP and IGQ-67. Finally, to test its construct validity, we assessed the relationships between the IGRS-15s and the affective systems using the ANPS and the wellbeing assessed with the PGWBI.

The data collected support the retest reliability and the concurrent and discriminant validity of the measure, and we have collected preliminary data about its construct validity. Examples of the possible clinical and research applications of this tool are discussed.

The first Freudian hypotheses about unconscious mental functioning fall within a model that may be described as an *automatic functioning hypothesis* (Weiss et al., 1986), because they conceive the unconscious psychic system (*Unc*) as a dynamic system characterized by drives seeking immediate relief and defences that automatically oppose them. Within this model, psychic life is mostly driven by search for pleasure and avoidance of pain, where considerations concerning reality play a secondary role (Freud, 1911).

Later in his career, however, Freud (1920, 1925, 1938) limited the role of the *Unc*, now called Id, and assigned a primary function to self-preservation motives and to the unconscious Ego, which tests reality and is guided by considerations concerning safety. This *higher mental functioning hypothesis*, which Freud developed in some of his later works, perfectly matches recent findings of neurosciences and cognitive and evolutionary sciences, according to which the human mind is characterized by a series of conscious and unconscious processes, selected by natural evolution, that allow the individual to adapt to her or his environment (Huang & Bargh, 2014; Kenrick, 2011; Kenrick & Griskevicius, 2013; Lewicki et al., 1992; Panksepp & Biven 2012; Wilson, 2012).

Also according to the Control-Mastery Theory (CMT; Weiss, 1993; Weiss et al., 1986; Gazzillo, 2016), the human mind is "wired," from the beginning of life, to adapt to reality, and in particular to interpersonal reality. To accomplish this, it needs to develop reliable knowledges, or beliefs, on how the surrounding environment works.

Moreover, in order to survive a child needs to feel that the people caring for him or her are loving and protective, strong and happy. If this is not the case, the child will feel responsible for the parents' lack of love and unhappiness, and guilty about having caused it or not having been able to ameliorate it. So, the child may develop a series of pathogenic beliefs that associate the achievement of personal well-being and the pursuit of healthy, realistic goals, with a fear of losing vital relation-

ships or hurting people he or she loves and cares about (in other words, with anxiety and guilt).

So, while classic psychoanalytic authors (Freud, 1923, 1924, 1930; Klein 1935, 1946) focused mainly on the intrapsychic origin of guilt and connected both guilt and the demand for self-punishment to perverse and destructive impulses, according to CMT the origin of guilt is interpersonal and adaptive, and stems from Fear, Attachment, and Care affect systems.

The conception of guilt as a prosocial emotion with an adaptive value is also compatible with recent evolutionary hypotheses about multilevel selection (Wilson & Wilson, 2008; Wilson, 1978). According to these hypotheses, there are more selective levels that operate in parallel—genetic, individual, and group. According to the multilevel selection theoretical frame, there is an interaction between the selection of traits that favor single individuals and the selection of traits that favor the survival of the group, so that although in a group a selfish individual may be more successful than an altruistic person, a group composed by more altruistic individuals tends to increase in size more than a group that is composed of more selfish individuals, thus contributing to the increase of altruistic individuals in that species. Group selection may have therefore encouraged a series of prosocial emotions, abilities, and behaviors that favor the group survivor via reciprocal care and mutual support (Davidov, Vaish, Knafo-Noam, & Hastings, 2016; Tomasello, 2009, 2016; Tomasello, Hare, Lehmann, & Call, 2007).

The specific features and intensity of guilt feelings of each person, however, are strongly influenced by her or his life experiences, from childhood onward. We know that children experience anxiety at the idea of being separated from their caregivers (Bowlby, 1969, 1973), and that, in general, social expulsion causes very painful feelings which are rooted in the same areas of the brain that stir physical pain (Eisenberg, & Lieberman, 2004; Eisenberg, Lieberman, & Williams, 2003). Feelings of guilt can thus be viewed as negative emotions caused by the need to maintain attachment and caregiving relationships and that manifests itself if individuals do or think they have done something that undermines these relationships. So, guilt seems to have an adaptive value that favors prosocial behaviors (O'Connor, 2000; Tignor & Colvin, 2017; Vaish, Carpenter, & Tomasello, 2016), and can be understood as a factor that reinforces social bonds by inhibiting actions which endanger group relationships and supporting restorative actions among members of the same group, thus allowing the group to survive longer (Baumeister, Stillwell, & Heatherton, 1994; Simon, 2014; Zahn-Waxler & Kochanska, 1990).

Feelings of guilt seem to be grounded in the emotional capacity to empathize with other people's distress and in the sense of responsibility that we feel toward this distress and on our proclivity to attempt to alleviate it (Bush, 2005; Hoffman, 1982; O'Connor et al., 2002). In fact, from a very early age, children show an empathic concern for other people suffering and display a series of behaviors aimed at alleviating it (Davidov et al., 2016; Davidov, Zahn-Waxler, Roth-Hanania, & Knafo, 2013; Zahn-Waxler & Kochanska, 1990). The same empathic capacity, which reaches very advanced stages in mankind, seems to have evolutionary origins that are connected to affective communication, social bonds, and parental care (Decety, Norman, Berntson, & Cacioppo, 2012). In particular, this capacity is based on the activation, at a primary subcortical level, of the emotional-motivational systems of *Sadness* and *Care*, which are the primary source of attachment and caring relationships and seem to be very relevant in the development of more evolved and cognitively elaborate forms of empathy, typical of the activation of emotional-motivational systems of secondary or tertiary level (Panksepp & Biven, 2012; Panksepp & Panksepp, 2013).

In some circumstances, however, prosocial behavior caused by excessive empathic concern can also become maladaptive (Zahn-Waxler & Schoen, 2016; Zahn-Waxler & Van Hulle, 2011). Numerous research studies highlight the link between excessive empathic activation and mental disorders (Blair, 2005; Decety & Moriguchi, 2007; O'Connor et al., 2012), and between excessive intrapersonal guilt feelings, in particular if unconscious, and self-defeating behaviors and psychological problems (Berghold & Locke, 2002; Bruno, Lutwak, & Agin, 2009; Giammarco & Vernon, 2015; Tilghman-Osborne, Cole, & Felton, 2010).

According to CMT, guilt feelings can become irrational and maladaptive when the belief of having harmed or the fear that one might possibly harm loved ones prevents the individual from achieving healthy and pleasurable goals. If grounded in this kind of beliefs, that CMT calls pathogenic, guilt feelings can in fact lead the subject to develop distress, inhibitions, and symptoms (Locke, Shilkret, Everett, & Petry, 2013; Meehan, O'Connor, Berry, & Weiss, 1996; O'Connor, Berry, Lewis, Mulherin, & Crisostomo, 2007; O'Connor, Berry, & Weiss, 1999; O'Connor, Berry, Weiss, & Gilbert, 2002; O'Connor, Berry, Weiss, Schweitzer, & Sevier, 2000). Pathogenic beliefs that support irrational guilt originate in childhood because of the child's need to adapt to traumatic environments and events, and may be influenced by the egocentric, magical, and omnipotent thinking of the child, which facilitates false associations between his or her behavior and unpleasant events affecting loved ones. CMT focuses on four kinds of interpersonal guilt (Gazzillo et al., 2017; O'Connor, Berry, Weiss, Bush, & Sampson, 1997): *survivor*

guilt, separation-disloyalty guilt, omnipotent responsibility guilt, and *self-hate. Survivor guilt* (see also Lifton, 1968; Niederland, 1981) refers to a painful emotion that people may experience when they are surpassing important others, believing that they are hurting them by being more successful, happy, fortunate, etc. In other words, people may assume, irrationally, that the attainment of the good things in life is unjust to those who have not gained them, or was at the expense of those who have not obtained them. *Separation guilt* stems from the fear of harming others by becoming independent, separate, and moving away, while *disloyalty* guilt stems from the belief that having different values, appreciating a different way of life, supporting different political ideas or religious beliefs will be hurtful to loved ones. Separation and disloyalty guilt may be considered as two aspects of the same construct, that is, emotional expression of the fear of hurting important others by being physically and psychologically separate and different from them (Asch, 1976; Modell, 1965). *Omnipotent responsibility* guilt involves an exaggerated sense of responsibility and concern for the happiness and well-being of other people. It is based on the belief that one has the duty and power to save loved ones in trouble. The last kind of interpersonal guilt, *Self-hate,* arises when an individual complies with severely critical, abusive, or neglecting attitudes of important others, often a parent, who felt or showed indifference, hatred, or contempt toward the person. Self-hate describes the feeling of being inherently wrong, bad, inadequate, and not deserving of acceptance, protection, love, and happiness. It is worth noting that the interpersonal guilt feelings described by CMT are compatible with four of the six moral foundations theorized and empirically studied by Jonathan Haidt (2012).

Despite the association between excessive and unconscious guilt and psychological problems, which makes it necessary to assess this feeling with reliable empirical tools, there are very few clinician-report tools for the assessment of guilt that have been validated on Italian samples. In the last few years, our research group developed and validated a clinician report for the assessment of interpersonal guilt from a CMT perspective, the Interpersonal Guilt Rating Scale–15 (IGRS-15; Gazzillo et al., 2017). The IGRS-15 is a reliable and valid tool that, thanks to its brevity (15 items), can be used for clinical and research purposes, making it possible to avoid the problems presented by self-report questionnaires in the assessment of unconscious/implicit variables (Block, 1995; McAdams, 1992; Westen, 1998).

Similarly, in Italy there are very few validated self-report questionnaires for the assessment of this construct and none of them are designed to evaluate interpersonal guilt according to CMT. The Guilt Sensitivity Questionnaire (GSQ; Melli, Carraresi, Poli, Marazziti, & Pinto,

2017), for instance, assesses sensitiveness to guilt defined as intolerance toward this feeling and tendency to overestimate its consequences and repercussions on one's life. The Trait Guilt Short Questionnaire Scale (TGSS; Melli, Primi, Bulli, Carraresi, & Stopani, 2017), which is a short version validated in Italy of the trait guilt subscale of the Guilt Inventory (Kugler & Jones, 1992), assesses the sense of guilt that a person habitually experiences. The Scale for the Measurement of the Impending Punishment (SMIP; Caprara, Perugini, Pastorelli, & Barbaranelli, 1990) evaluates guilt defined as a propensity to develop feelings of persecution, oppression, and tension connected to the anticipation and fear of an impending punishment. The only existing tool for the assessment of interpersonal guilt according to CMT, the Interpersonal Guilt Questionnaire–67 (IGQ-67; O'Connor et al., 1997), is not validated in Italian and its four subscales (Survivor Guilt, Separation Guilt, Omnipotent Responsibility Guilt, and Self-hate) were not supported by factor analytic results.

Given that it might be important for a clinician to assess the degree of discrepancy between his or her own clinical judgement about guilt feelings in his or her patients, as assessed with the IGRS-15, and the subjective assessment of these same feelings by the patients she or he is treating, it may be useful to have a self-report questionnaire to be used together with the IGRS-15. The aim of this article is to introduce the reader to the self-report version of the IGRS-15, the Interpersonal Guilt Rating Scale–15s (IGRS-15s).

We have reformulated the items of the IGRS-15 so that they could be used in a self-report format, then we have checked if the four-factor solution of the clinician-report format (Survivor Guilt, Separation/Disloyalty Guilt, Omnipotent Responsibility Guilt, and Self-hate) fit the data collected with the self-report version of the IGRS-15, that is, the newly developed IGRS-15s. Moreover, we checked the retest reliability of the IGRS-15s after four weeks. We also checked its concurrent validity by correlating it with the Scale for the Measurement of the Impending Guilt and with the Interpersonal Guilt Questionnaire–67; this last tool, even if not validated on Italian samples, is the only existing self-report tool developed according to CMT conception of guilt. Finally, we checked the construct validity of the IGRS-15s assessing its correlation with the Psychological General Well-Being Index (PGWBI; Dupuy, 1984) and with the Affective Neuroscience Personality Scales (ANPS; Davis, Panksepp, & Normansell, 2003). We expected to find a positive and significant correlation between our measure factors and the SMIP score, negative and significant correlations between our measure factors and PGWBI scores, and positive and significant correlations be-

tween our guilt factors and the ANPS scores about Fear, Sadness/Attachment and Care, but not between Self-hate factor and Care.

METHOD

Participants

The sample was composed of 645 nonclinical subjects collected from January 2016 to April 2017 by two M.D. students (Department of Dynamic and Clinical Psychology, "Sapienza" University of Rome)[1] and by the first, third, and fourth author of this article among people they knew directly and indirectly. Of this sample, 249 subjects were students from the second year of "Sapienza" University of Rome who attended the course of Dynamic Psychology taken by the first author of this article. The participation to this research project was voluntary, and no payment was given to the subjects.

On average, participants were 34.21 years old (SD = 15.48; ranging from 18 to 79), with 6 missing values; 369 were female (57.2%) and 275 were male (42.6%), the data about 1 subject (0.2%) was missing; 518 were European (80.3%), 2 were African (0.3%), 1 was Asian (0.2%), and 122 were from other ethnicities (18.9%). The data for 2 subjects (0.3%) were missing. Their self-reported socioeconomic status was: 63 (9.8%) poor; 563 were middle class (87.3%); 18 (2.8%) were upper-middle class. The data for 1 subject was missing.

The subsample who completed the SMIP was composed of 370 subjects; on average, they were 41.85 years old (SD = 15.16; ranging from 18 to 79), with 4 missing values; 215 were female (58.1%) and 155 were male (41.9%); 315 were European (85.1%), 2 were African (0.5%), 1 was Asian (0.3%), and 52 were from other ethnicities (14.1%). Their socioeconomic status was: 26 (7%) poor; 333 were lower-middle class (90%); 10 (2.7%) were upper-middle class. The data for 1 subject was missing.

The subsample of subjects who completed the PGWBI was composed of 531 subjects, on average they were 36.81 years old (SD = 15.84; ranging from 18 to 79), with 6 missing values; 321 were female (60.5%) and 209 were male (39.4%), the data about 1 subject (0.2%) was missing; 431 were European (81.2%), 2 were African American (0.4%), 1 was Asian (0.2%), and 96 were from other ethnicities (18.1%). One subject's data (0.2%) was missing. Their socioeconomic status was: 47 (8.9%) poor; 468

lower-middle class (88.1%); 15 (2.8%) were upper-middle class. The data for 1 subject was missing.

The ANPS was completed by all in the sample, apart from 6 people whose data were missing.

Given that our measure is intended to assess the relative strength of the different kinds of guilt in each patient, we did not need to collect a normative sample, but a sample large enough to have reliable data about the relationships between the new developed measure and other, previously validated, measures. The order of administration of the tools was randomized before the administration.

Measures

Interpersonal Guilt Rating Scale–15s (IGRS-15s). This is the empirical tool to be validated; it is a 15-item self-report rating scale assessing interpersonal guilt as conceived in CMT. Each item is assessed on a 5-point rating scale, from 1 = *not representative at all*, to 5 = *completely representative*.

Scale for the Measurement of the Impending Punishment (SMIP). The SMIP (Caprara et al., 1990) is a 30-item self-report tool rated on a 6-point scale from 1 (completely false) to 6 (completely true). It was developed to assess the propensity to develop feelings of persecution, oppression, and tension connected to the anticipation and fear of an incumbent punishment. For its validation, 143 subjects completed the tool. Factor analysis pointed out one factor explaining 30% of variance. Its reliability, calculated by Cronbach's coefficient, was good (.89).

The Interpersonal Guilt Questionnaire–67 (IGQ-67). This inventory (O'Connor et al., 1997) is a 67-item paper-and-pencil self-report for the assessment of the four kinds of interpersonal guilt conceptualized by CMT: *Survivor guilt* (22 items), *Separation guilt* (15 items), *Omnipotent Responsibility guilt* (14 items) and *Self-hate* (14 items). Each item is assessed on a 5-point Likert scale, from 1 (vey untrue of me) to 5 (very true of me). The item set was generated by a pool of senior clinicians and was based on their clinical observations and theoretical hypotheses. The sorting of the items into the four subscales is based on a top-down procedure and was not confirmed by factor analysis, which gave a two-factor solution: *Self-hate* and *Composite guilt (Survivor, Separation, and Omnipotent Responsibility guilt)*. All subscale scores are symmetrically distributed and their Cronbach's alpha values ranged from .82 to .87 in a U.S. sample of 111 subjects.

Affective Neuroscience Personality Scale (ANPS). The ANPS (Davis, Panksepp, & Normansell, 2003) is a 110-item self-report tool for the assessment of six primary affective systems identified by Panksepp and his research group (Panksepp & Biven, 2012; Panksepp, Knutson, & Pruitt, 1998): the Seek, Play, Care, Fear, Anger, and Sadness (or attachment) systems. The authors have also included the assessment of Spirituality, which refers to the spontaneous quest for a transcendent meaning in life. Each scale consists of 14 items, except for the Spirituality scale that has 12 items. Each item is assessed on a 4-point Likert scale from 1 (minimum agreement) to 4 (maximum disagreement). The first validation study in English was conducted on a sample of 769 student and job applicants. The factor analysis identified two basic factors: Seek, Play, and Care systems, which can constitute a measure of a general Positive Affect, and the Fear, Anger, and Sadness systems, which can constitute a measure of a general Negative Affect. Reliability was tested by calculating Cronbach's alpha coefficients for each of the seven scales, which values ranged from .65 to .86.

The Italian validation of this tool (Pascazio et al., 2015) was performed on a sample of 418 subjects. The factor analysis resulted in three general factors. The first contains two Positive Affects, seek and play; the second contains the three Negative Affects (sadness, fear, and anger), and the third factor includes Care and, negatively, rage. The Cronbach's alpha values of these factors ranged from .55 to .82.

Psychological General Well-Being Index (PGWBI). The PGWBI (Dupuy, 1984) is a 22-item self-report tool designed to assess the perception of general well-being through six dimensions: anxiety (5 items); depression (3 items); feelings of well-being (4 items); vitality (4 items); general health (3 items); and self-control (3 items). All items are rated on a 6-point scale (0–5). Six subscores and a global score ("Well-being Index") can be calculated. They range from 0 to 100 after a linear transformation. The higher the scores, the higher the well-being. The Cronbach's alpha values of the first validation ranged from .63 to .82.

The Italian validation of this tool (Grossi, Mosconi, Groth, Niero, & Apolone, 2002) was obtained from a sample of 1129 subjects. Reliability was tested by calculating Cronbach's coefficients for each of the six scales and their values ranged from .61 to .85. In general, for research purposes it is the general Well-being Index that is used.

The Socio-Demographic Schedule (Gazzillo & Faccini, 2016). This is a brief ad hoc self-report tool composed by eight forced choice questions aimed at collecting data about age, gender, profession, socioeconomic status, ethnicity, number of family members (1st degree relatives), and presence of physical or mental health problems certified by a diagnosis.

PROCEDURE

In order to check the factor structure of the tool, we performed a confirmatory factor analysis. In order to assess the retest reliability of the IGRS-15s, we re-administered it to a random subsample of 54 subjects four weeks after the first administration. Then we calculated the Pearson product-moment correlations between the two assessments.

To assess the relationship between the different empirically derived factors of the IGRS-15s, the SMIP and the ANPS scales and empirically derived factors, we used the Pearson product-moment correlation coefficients. Finally, to assess the relationship between IGRS-15s factors and PGWBI we calculated the product-moment correlation coefficient between the different IGRS-15s factors and the general Well-being Index of the PWBI and the canonical correlations between the PGWBI subscales and IGRS-15s.

Finally, we calculated the Pearson product-moment correlations and the analysis of variance for investigating the relationships between IGRS-15s factors and several socio-demographic dimensions.

Confirmatory factor analysis was performed with the *lavaan* package in R (Rosseel, 2012) while all other data analyses were conducted with SPSS–Version 22.

RESULTS

Factor Analysis

A four-factor confirmatory factor analysis solution model (Survivor guilt; Separation/Disloyalty guilt; Omnipotent Responsibility guilt; Self-hate), based on previous research with the clinician-report version of the Interpersonal Guilt Rating Scale–15 (IGRS-15; Gazzillo et al., 2017) and with CMT hypotheses (Gazzillo, 2016; Silberschatz, 2005; Weiss, 1993; Weiss, Sampson, & The Mount Zion Psychotherapy Research Group, 1986) was proposed. A confirmatory factor analysis using 494 cases was computed using the *lavaan* package in R (Rosseel, 2012). The results are displayed in Table 1.

The fit of the resulting solution was fair, *Chi-square*(84) = 239.17, *gfi* = .94, RMSEA = .06, *rmr* = .06. As seen by their high Z-test indices all proposed loadings were statistically significant at the *p* < .001 level. Cronbach's alpha coefficients, however, were fairly low: .76 for Survivor Guilt, .57 for Separation/Disloyalty, .64 for Omnipotent Responsibility, and .68 for Self-hate. Moreover, examination of the factor

intercorrelations shown in Table 2, indicate that the factors were highly intercorrelated and that a model with fewer factors would be feasible. Modification indices suggested that a revised three-factor solution that combined Omnipotent Responsibility with Separation/Disloyalty in an Omnipotence guilt factor could be attempted. We chose the Omnipotence label because all the items of this factor seem to reflect the idea that the person feels to have an omnipotent power to hurt or make happy the people she or he loves.

The hypothesized revised three-factor solution (Survivor Guilt; Separation/Disloyalty + Omnipotent Responsibility Guilt, or Omnipotence Guilt; and Self-hate) is displayed in Table 3.[2]

As can be seen in Table 3, all hypothesized standardized factor loadings were statistically significant at the .001 level or less. The overall fit of the model was good, *Chi-square*(84) = 180.519, *p* < .001, *gfi* = .95, RMSEA = .051. Cronbach's alpha coefficients were: 0.76 for Survivor Guilt; .71 for Omnipotence Guilt; and .68 for Self-hate. As can be seen in Table 4, the factors had moderate to high intercorrelations. A diagram of the findings can be seen in Figure 1. It appears that the revised three-factor solution was better than the previous four-factor solution.

The average score of these different kinds of guilt in our sample were: Survivor guilt, 2.41 (*SD* = .77); Omnipotence guilt, 2.65 (*SD* = .67); Self-hate, 1.60 (*SD* = .71).

Retest Reliability

The retest reliability, assessed after four weeks on a random sample of 54 subjects, was: Survivor guilt, *r* = .70, *p* < .001; Omnipotence guilt, *r* = .76, *p* < .001; Self-hate, *r* = .70, *p* < .001.

Concurrent Validity

To check the concurrent validity of our measure, we calculated its correlation with another measure of guilt already validated on an Italian sample, the SMIP. Given that this measure is the operationalization of a different conception of guilt, which sees this feeling and a conse-

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2. It is worth noting that an Exploratory Factor Analysis with Principal Axis Factor Analysis and Promax Rotation of the overall sample of 646 subjects pointed to the same three-factor solution. For more information, contact the first two authors of this article.

Table 1. Four-factor Confirmatory Factor Analysis

Factor	Item	Item Label	Loading	SE	Z
Survivor	igrs2	I feel uncomfortable feeling better off than other people.	0.67	0.05	15.00
Survivor	igrs4	I feel uncomfortable about becoming more successful than people who are important to me.	0.69	0.05	15.49
Survivor	igrs7	Being envied makes me acutely uncomfortable.	0.54	0.05	11.56
Survivor	igrs12	I conceal or minimize my successes out of concern for making less successful people feel bad.	0.61	0.05	13.35
Survivor	igrs15	I feel uncomfortable when I receive better treatment than others.	0.59	0.05	12.90
Omnipotent Responsibility	igrs3	I feel it is my responsibility to fix other people's problems.	0.65	0.05	13.32
Omnipotent Responsibility	igrs5	I think that I am selfish and uncaring if I am not the person who takes care of other people.	0.55	0.05	11.17
Omnipotent Responsibility	igrs9	I feel overly responsible for other people's well-being.	0.64	0.05	13.17
Separation/Disloyalty	igrs8	I feel I should visit my parents as often as they wish.	0.58	0.05	10.99
Separation/Disloyalty	igrs10	I feel I should put my parents' wishes ahead of my own.	0.62	0.05	11.77
Separation/Disloyalty	igrs13	I would feel badly if I renounced my family's fundamental values/religious beliefs and took on different values/beliefs.	0.35	0.05	6.63
Separation/Disloyalty	igrs14	I think I should not separate from loved ones because this would be hurtful, disloyal, or make them feel abandoned.	0.48	0.05	9.14
Self-hate	igrs1	I believe that if other people really knew me, they would want nothing to do with me.	0.67	0.05	13.78
Self-hate	igrs6	I believe I have tricked other people into liking me.	0.81	0.05	15.88
Self-hate	igrs11	I feel that I do not deserve to be happy.	0.50	0.05	9.96

quence of the fear of an impending punishment, we expected a low to moderate level of correlation between the two measures.

The correlation between Survivor guilt factor and SMIP was $r = .353$ ($p < .001$); the correlation between Omnipotence guilt and SMIP was $r = .309$ ($p < .001$); the correlation between Self-hate and SMIP was $r = .365$ ($p < .001$).

Table 5 displays the correlations among the IGRS-15s factors and the IGQ-67 scales, which further support the concurrent and discriminant validity of IGRS-15s: the average correlation between an IGRS-15s fac-

Table 2. Correlations among Four-factor Confirmatory Factors

Variable	1	2	3
1. Survivor	1.00		
2. Omnipotent Respon-sibility	.67**	1.00	
3. Separation	.81**	.88**	1.00
4. Self-Hate	.54**	.34**	.35**

*Note. *p < .05; **p < .01.*

tor and the equivalent IGQ-67 scale is $r = .558$, while the average correlation between a IGRS-15s factor and a different IGQ-67 scale is $r = .285$.

Construct Validity: Guilt, Primary Affects, and Well-Being

According to the theoretical considerations presented in the introduction, we hypothesized that Survivor and Omnipotence guilt correlated positively and significantly with the Sadness/attachment, Care, and Fear affective systems as assessed by the ANPS, while Self-hate correlated with the Sadness and Fear systems. In fact, both Survivor guilt and Omnipotence guilt are expressions of a need to preserve the link with important others and to take care of their well-being, and of the fear of losing that link or hurting them. In contrast, Self-hate is the expression of the fear of losing an attachment bond or being criticized, attacked, humiliated, or neglected for how one person feels to be.

As for the relationship between our guilt measure and primary affects, as expected, Survivor guilt correlated with Sadness/attachment ($r = .219$; $p < .001$), Fear ($r = .188$; $p < .001$), and Care ($r = 164$; $p < .001$). Omnipotence guilt correlated with Care ($r = .276$; $p < .001$), Sadness/attachment ($r = .225$; $p < .001$), and Fear ($r = .217$; $p < .001$). Finally, Self-hate correlated positively and significantly with Fear ($r = .176$; $p < .001$), Sadness/attachment ($r = .151$; $p < .001$), but also with Anger ($r = .155$; $p < .001$), and negatively with Play ($r = -.141$; $p = .001$), and Seeking ($r = -.130$; $p = .003$). As we will discuss later, the positive correlation between Self-hate and Anger and its negative correlations with Play and Seeking were not expected but consistent with CMT hypotheses. Finally, Survivor guilt and Omnipotence guilt correlated also with Spirituality (respectively, $r = .121$; $p = .003$, and $r = .153$; $p < .001$).

Moreover, considering the ANPS factors empirically derived in the Italian validation sample, Survivor guilt, Omnipotence guilt, and Self-
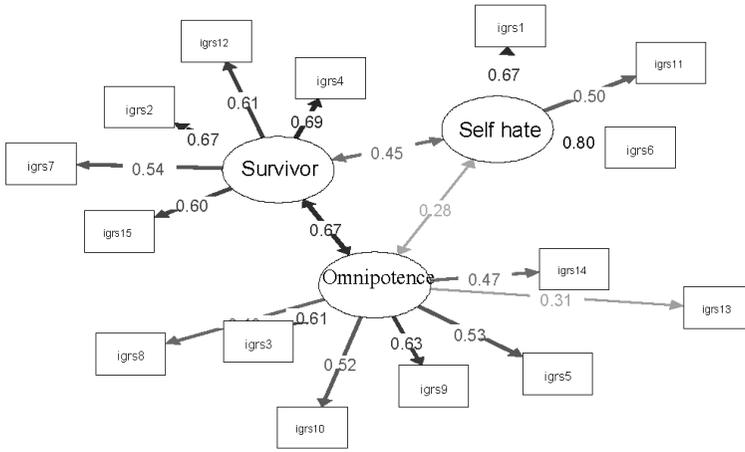
FIGURE 1. Confirmatory Factor Analysis Findings

hate all correlated positively and significantly with the ANPS Negative Affects factor ($r = .181$; $p < .001$; $r = .212$; $p < .001$; $r = .188$; $p < .001$). Moreover, Omnipotence guilt correlated positively and significantly with the CARE factor ($r = .143$; $p = .001$) and Self-hate correlated also negatively with the ANPS Positive Affects and care factors ($r = -.169$; $p < .001$; $r = -.157$; $p < .001$).

Finally, we checked the correlation between our guilt factors and well-being assessed with the PGWBI.

The correlations between the different IGRS-15s factors guilt and the overall index of well-being were all negative and significant: Survivor guilt ($r = -.188$; $p < .001$), Omnipotence guilt ($r = -.200$; $p < .001$), and Self-hate ($r = -.285$; $p < .001$).

We used the R program yacca to perform canonical correlation analysis (Hotelling, 1936; Tabachnick & Fidell, 2013) and redundancy analysis (Stewart & Love, 1968) to examine if there were specific patterns of relations of our guilt factor scores to the PGWBI well-being subscale. Table 6 indicates out of three possible canonical variate sets, there was one statistically significant set with a canonical correlation of 0.40. Redundancy analysis provided the loadings of the guilt factors scores and well-being measures on the canonical variate and the proportions of explained variance of each set predicted from the other set. As can be seen in the table, all the well-being scales and all guilt factor scores had high loadings. That is, all the guilt factors were negatively correlated with all the well-being subscales. Redundancy coefficients are squared multiple correlations of the measures in one set of variables with measures in

Table 3. Revised Three-Factor Confirmatory Factor Analysis

Factor	Item	Item Label	Loading	SE	Z
Survivor	igrs2	I feel uncomfortable feeling better off than other people.	0.67	0.03	20.56
Survivor	igrs4	I feel uncomfortable about becoming more successful than people who are important to me.	0.69	0.03	21.90
Survivor	igrs7	The idea of being envied makes me acutely uncomfortable.	0.54	0.04	14.04
Survivor	igrs12	I conceal or minimize my successes out of concern for making less successful people feel bad.	0.61	0.04	17.64
Survivor	igrs16	I feel uncomfortable when I receive better treatment than others.	0.60	0.04	16.82
Omnipotence	igrs3	I feel it is my responsibility to fix other people's problems.	0.61	0.04	16.55
Omnipotence	igrs5	I think that I am selfish and uncaring if I am not the person who takes care of other people.	0.53	0.04	13.31
Omnipotence	igrs9	I feel overly responsible for other people's well-being.	0.63	0.04	17.39
Omnipotence	igrs8	I feel I should visit my parents as often as they wish.	0.48	0.04	11.39
Omnipotence	igrs10	I feel I should put my parents' wishes ahead of my own.	0.52	0.04	12.86
Omnipotence	igrs13	I would feel badly if I renounced my family's fundamental values/religious beliefs and took on different values/beliefs.	0.31	0.05	6.43
Omnipotence	igrs14	I think I should not separate from loved ones because this would be hurtful, disloyal, or make them feel abandoned.	0.47	0.04	10.92
Self-hate	igrs1	I believe that if other people really knew me, they would want nothing to do with me.	0.67	0.04	17.21
Self-hate	igrs6	I believe I tricked other people into liking me.	0.80	0.04	20.65
Self-hate	igrs11	I feel that I do not deserve to be happy.	0.50	0.04	11.74

Table 4. Factor Correlations for Revised Three-Factor Solution

Variable	1	2
1. Survivor		
2. Omnipotence	.67**	
3. Self-hate	.46**	.28**

*Note. *p < .05; **p < .01.*

the other set of variables. In our case, the guilt factors explained about 7% of the variance in the well-being scales and the well-being scales explained about 10% of the variance in the guilt factors. There, our hypothesis that factors of interpersonal guilt would correlate inversely with measure of well-being was confirmed.

The Relationship Between IGRS-15s, Age, Gender, Family Features, and Career Chosen

There was a low negative correlation between age and both Omnipotence guilt and Self-hate (r = -.124; p = .002 and r = -.089; p = .025).

The mean level of Self-hate was slightly higher in females than in males (mean 1.68 vs. 1.54; F = 8.77; p < .001), while there was no other difference between males and females in the other IGRS-15s factors.

There was also a low negative correlation between family socioeconomic status, as reported by the subjects themselves, and Survivor guilt (r = -.089; p = .013).

The number of family members correlated with Omnipotence guilt (r = .136; p = .001), while in presence of family member(s) with psychological diagnoses both Survivor guilt (mean 3.03 vs 2.39; F = 3.64; p = .027) and Self-hate (1.83 vs 1.59; F = 3.36; p = .035) were stronger.

Finally, all the IGRS-15s factors were slightly higher in Psychology students than in the other subjects of our sample (Survivor guilt: mean 2.49 vs. 2.36; F = 4.50; p = .001; Omnipotence guilt: mean 2.80 vs. 2.55; F = 21.46; p < .001; Self-hate: mean 1.74 vs. 1.52; F = 14.54; p < .001).

DISCUSSION

Factor analysis of the items of the IGRS-15s suggested a factor solution which was different from the factor solution of the clinician-report IGRS-15 in that it yielded a three-factor solution and not a four-factor solution. In this three-factor solution, Omnipotent Responsibility guilt

Table 5. Correlations among IGRS-15s factors and IGQ-67 scales

Factors/Scales	IGQ-67 Survivor	IGQ-67 Separation	IG1-67 Omnipotence	IGQ-67 Self-hate
IGRS-15s Survivor	.627***	.261***	.334***	.414***
IGRS-15s Omnipotence	.424***	.463***	.535***	.325***
IGRS-15s Self-hate	.422***	.351***	.087*	.607***

*Note. N = 530. *p < .05, **p < .01, ***p < .001. Bolded: the correlations among scales which assess the same construct.*

and Separation/Disloyalty guilt could not be empirically differenti-ated, giving rise to a single factor that we called Omnipotence guilt. This data suggests that, when assessing themselves, people may not be able to clearly differentiate if they are afraid of hurting loved people by being separate or different from them, or if they are afraid of hurting them not taking (enough) care of their sufferance and their problems. In other words, they seem to be aware only of their duty and power to take care of loved people who suffer, even if this means renouncing one's separateness, difference, or the right to have a life of one's own. However, they can differentiate this kind of guilt from the guilt they feel when they are or feel better than a loved one (Survivor guilt), and to the deep feeling of being inherently wrong and bad (Self-hate).

The retest reliability of IGRS-15s factors is good, while the moderate correlation of IGRS-15s factors with the SMIP score are evidence of its concurrent validity and of the differences between the conception of guilt which are at the basis of these two different tools, one assessing guilt as a consequence of the fear of being punished, and the second assessing guilt as a consequence of the fear of losing important relation-ships because of something that the person has done or not done (Sur-vivor and Omnipotence guilt), or because of how a person perceives himself (Self-hate).

The correlations among IGRS-15s factors and IGQ-67 scales all support the concurrent and discriminant validity of our tool, even if IGQ-67 was not previously validated in Italy and its factor structure is grounded in CMT but not empirically supported.

Concerning its construct validity, our IGRS-15s factors correlate with all the theoretically hypothesized affective systems assessed by ANPS, showing that Survivor guilt and Omnipotence guilt are both connected to the affective systems of Fear, Sadness/attachment, and Care; in other words, they assess to what degree a person is afraid (*fear*) of losing or having lost a loved person or her/his love (*sadness/attachment*) or of having hurt her/him (*care*). Self-hate, on its part, is correlated to Sad-ness/attachment and Fear, expressing the feeling of being afraid of not

Table 6. Well-Being Measures and Guilt Factors: Canonical Correlation and Redundancy Analysis Results

	Canonical	Variate	Loadings
Well-Being Measure	I	I	II
Anxiety	-0.60	0.65	-0.23
Depression	-0.74	0.06	-0.53
Positivity	-0.62	0.25	0.14
Self-control	-0.83	0.07	0.08
General Health	-0.72	0.37	0.17
Vitality	-0.74	-0.06	0.24
Factor	I	I	II
Survivor	0.67	-0.04	0.74
Omnipotence	0.59	-0.80	0.05
Self-Hate	0.87	0.37	-0.34
Canonical Correlation	.40**	0.12	0.07
Redundancy Well-Being predicted from Factor Scores	0.07	0.00	0.00
Redundancy of Factor scores predicted from Well-Being	0.10	0.00	0.00
Overall Redundancy Well-Being| Factor	0.07		
Overall Redundancy Factor| Well-Being	0.10		

Note. **$p < .01$.

being loveable for how a person thinks and feels to be. It is worth noting that, according to our data, Self-hate is also connected with Anger and, inversely, with Seek and Play affect, which seems to suggest that feeling undeserving of love and worthless tends to inhibit the feeling of joyfully looking for something better (seeking), and the pleasurable excitation involved in playing, and tends to be connected with feelings of rage.

The correlations between IGRS-15s factors and the ANPS scales, however, are generally low, stressing how interpersonal guilt is shaped not only by biologically based affective systems, such as the ones assessed by ANPS, but also by the specific life experiences and the cultures of the people who experience it.

The positive correlation between `IGRS-15s factors and a measure of well-being already validated in the Italian population, the PGWBI, further strengthens the construct validity of our guilt measure. However, the low level of these correlations points out how guilt feelings are only one source of psychological suffering.

The low negative correlation between Omnipotence guilt and Self-hate with age suggests that, with growing older, people tend to become more able to accept themselves and the limitations of their power to help other people who suffer. This data, together with the fact that Self-hate is stronger in females than in males, are coherent with the general tendency of males to have less self-esteem problems than females, and of self-esteem increasing with age (see, for example, Bleidorn et al., 2016)

The low negative correlation between socioeconomic status and Survivor guilt is consistent with the idea that Survivor guilt tends to be stronger in people who see or have seen loved ones in difficulties, and this is further confirmed by the fact that Survivor guilt is stronger in people who self-report that family members have or have had psychological problems. The family members of people with psychological problems seem also to suffer from a stronger Self-hate, which may be both a consequence of mistreatment and neglect, and the outcome of an identification with family members who show themselves Self-hate, as is often the case with people with mental health problems (Gazzillo et al., 2017; Weiss, 1993). Moreover, the positive and significant relationship between the number of family members and Omnipotence guilt could be easily explained by the fact that in the presence of larger families, all their members, at least in Italy, are directly involved in tasks of reciprocal care (Goulbourne, Reynolds, Solomos, & Zontini, 2010). Finally, the fact that all IGRS-15s factors were higher in Psychology students may be explained by a stronger proclivity to feel empathy and prosocial emotions in people who decide to dedicate their professional lives to understanding mental functioning and treating people who suffer from emotional problems.

As already stressed, IGRS-15s (in Appendix) is aimed to assess, for clinical purposes, which are the kinds of interpersonal guilt that are stronger in a specific patient, and we suggest using it together with its clinician-report form, the IGRS-15, in order to see the overlap and discrepancies between the clinician assessment of the interpersonal guilt of a patient and the patient assessment of this same kind of guilt. Using it in this way may be useful for helping the clinician to see if he or she understands correctly how relevant a specific kind of guilt is for that patient, *and* for seeing to what extent a patient is aware of her or his guilt feelings.

Let's take as an example the case of a patient who, according to the clinician's assessment of guilt with the IGRS-15, seems to suffer mainly

from a strong Survivor guilt, while the patient's IGRS-15s stresses more the relevance of Self-hate. How to make sense of this difference? In a case such as this one, the problem that the clinician has is to understand if the self-deprecation of the patient is primary and derives from early experiences of neglect, mistreatment, devaluation, etc., or if these feelings are a consequence of the guilt he feels toward a loved one if he considers himself strong, happy, satisfied, worthy of appreciation, etc. If the first hypothesis is true, then the patient's self-report assessment of guilt has been useful to the clinician for a better understanding of his patient; on the contrary, if the second hypothesis is right, then the clinician needs to help the patient to develop a more precise understanding of the origins and function of his self-debasement.

Apart from their usefulness for understanding the patient, these different hypotheses have important treatment implications. If Self-hate is primary, in fact, a more supportive approach aimed at strengthening the self-esteem of the patient would be the optimal choice, contrasting the lack of love, care, and appreciation the patient suffered when he was a child. But if Survivor guilt is stronger, then a supportive approach may be counterproductive in that it could suggest to the patient that also the clinician needs to see him as weak, fragile, and needing support, while it would be much more useful for him if the clinician could see and treat him as a strong, happy-go-lucky person who does not feel entitled to show his strengths (Person, Curtis, & Silberschatz, 1991; Weiss, 1993).

Another possible field of application of the combined use of IGRS-15 and IGRS-15s is research in psychotherapy. Just few examples: using both these tools can be useful to see if in good-outcome psychotherapies there is, or there develops, a higher correlation between IGRS-15 (clinician) and IGRS-15s (patient) assessment of interpersonal guilt, while in poor-outcome therapies these two assessments might tend to be and remain less correlated. Moreover, it could be checked if psychotherapy interventions specifically aimed at reducing interpersonal guilt might favor a reduction in the scores of these tools during the treatment.

These are only few examples of the possible usefulness of IGRS-15 and IGRS-15s implementation in clinical practice.

In future studies, we will collect data on guilt in clinical samples to check if the kinds of guilt assessed with our tools enable us to differentiate clinical versus nonclinical subjects. Further, the inclusion of a clinical sample will allow us to develop the norms of different clinical and nonclinical samples for our measures.

APPENDIX. The Interpersonal Guilt Rating Scale–15s

	1	2	3	4	5				
	Very Uncharacteristic	Uncharacteristic	Characteristic enough	Characteristic	Very Characteristic				
1	I believe that if other people really know me, they would want nothing to do with me.				1	2	3	4	5
2	I do not like feeling better off than other people.				1	2	3	4	5
3	I feel it is my responsibility to solve other people's problems.				1	2	3	4	5
4	I feel uncomfortable doing better than friends or family.				1	2	3	4	5
5	I think that I am selfish and uncaring if I am not the person who takes care of other people.				1	2	3	4	5
6	I believe I have tricked other people into liking me.				1	2	3	4	5
7	The idea of being envied makes me uncomfortable.				1	2	3	4	5
8	I feel I should visit my parents as often as they would like.				1	2	3	4	5
9	I feel overly responsible for other people's well-being.				1	2	3	4	5
10	I feel I should put my parents' wishes ahead of my own.				1	2	3	4	5
11	I feel that I do not deserve to be happy.				1	2	3	4	5
12	I conceal or minimize my successes out of concern for making less successful people feel badly.				1	2	3	4	5
13	I would feel badly if I renounced my family's fundamental values/religious beliefs and took on different values/beliefs.				1	2	3	4	5
14	I think I should not separate from loved ones because this would be hurtful, disloyal, or make them feel abandoned.				1	2	3	4	5
15	I feel uncomfortable when I receive better treatment than others.				1	2	3	4	5

IGRS-15S FACTORS AND ITEMS

Survivor Guilt

1 – 4 – 7 – 12 – 15

Omnipotence Guilt

Separation/Disloyalty

8 – 10 – 13 – 14

Omnipotent Responsibility

3 – 5 – 9

Self-Hate

1 – 6 – 11

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