



UNIVERSIDADE DE
COIMBRA

Flávia Vanessa Rocha Borges

**ADAPTATION AND VALIDATION STUDIES OF THE BRIEF
DIFFERENTIATION OF SELF INVENTORY-REVISED
(BRIEF DSI-R) IN HETEROSEXUAL AND SEXUAL
MINORITY PORTUGUESE YOUNG ADULTS**

Dissertação no âmbito do Mestrado Integrado em Psicologia, na área de subespecialização em Psicoterapia Sistémica e Familiar, orientada pela Professora Doutora Luciana Sotero e pelo Doutor Jorge Gato e apresentada à Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra

outubro de 2021

Estudos de adaptação e validação do *Brief Differentiation of Self Inventory-Revised (Brief DSI-R)* em jovens adultos portugueses heterossexuais e de minorias sexuais

Resumo: O conceito da diferenciação do *self* tem suscitado interesse e diversos estudos têm investigado a sua relação com o desenvolvimento individual intrapessoal (saúde mental) e interpessoal (relações). No processo de diferenciação do *self* a adultez emergente é uma fase crucial, e a orientação sexual muitas vezes assumida nessa fase pode ter impacto nesse processo de autonomização e diferenciação. O presente estudo tem como principal objetivo a adaptação e validação do *Brief Differentiation of Self Inventory-Revised (Brief DSI-R)*, de modo a contribuir para a compreensão da diferenciação do *self* nos jovens adultos portugueses, tendo em consideração a sua orientação sexual. Esta investigação contou com a participação de 253 participantes, 125 heterossexuais e 128 não heterossexuais, com recurso a uma amostragem por conveniência e *snowball*. Os resultados obtidos apontam para uma estrutura trifatorial do *Brief DSI-R*, com bons valores de consistência interna para a escala total ($\alpha = .85$) e para a subescala Reatividade Emocional ($\alpha = .79$). As subescalas Posição do Eu ($\alpha = .61$) e *Cut-Off* Emocional ($\alpha = .57$) revelaram valores menos satisfatórios de consistência interna. Relativamente à validade convergente, foi possível verificar que a diferenciação do *self* está correlacionada com a satisfação com a vida. Foram também encontradas diferenças na diferenciação do *self* entre as distintas orientações sexuais, designadamente os jovens heterossexuais revelaram uma maior diferenciação do *self* comparativamente aos jovens de minorias sexuais. Com este estudo verificou-se que a versão portuguesa do *Brief DSI-R* constitui uma medida fiável, podendo ser usada em contextos de investigação ou clínicos, e que permite o estudo da diferenciação do *self* nos jovens adultos portugueses com diferentes orientações sexuais. O presente estudo contribuiu também para colmatar a escassez de estudos no que diz respeito à diferenciação do *self* em minorias sexuais.

Palavras-chave: *Brief DSI-R*; diferenciação do *self*; jovens adultos; minorias sexuais; validação

Adaptation and validation studies of the Brief Differentiation of Self Inventory-Revised (Brief DSI-R) in heterosexual and sexual minority Portuguese young adults

Abstract: The concept of differentiation of self has raised interest, and several studies have investigated its relationship to individual intrapersonal (mental health), and interpersonal (relationships) development. In the process of differentiation of self, emerging adulthood is a crucial phase, and sexual orientation often assumed at this stage may impact this process of autonomization and differentiation. The main purpose of this study is to adapt and validate the Brief Differentiation of Self Inventory-Revised (Brief DSI-R), in order to contribute to the understanding of differentiation of self in Portuguese young adults, taking into account their sexual orientation. This research counted on the participation of 253 participants, 125 heterosexuals, and 128 non-heterosexuals, using a convenience, and snowball sampling. The results obtained point to a trifactor structure of the Brief DSI-R, with good values for the total scale ($\alpha = .85$), and the Emotional Reactivity ($\alpha = .79$) subscale. However, the subscales I-Position ($\alpha = .61$), and Emotional Cut-Off ($\alpha = .57$) showed less satisfactory internal consistency values. Regarding convergent validity it was possible to verify that differentiation of self is correlated with life satisfaction. Differences in differentiation of self were also found among the different sexual orientations, namely heterosexuals showed a greater differentiation of self when compared to young people from sexual minorities. With this study we verified that the Portuguese version of the Brief DSI-R is a reliable measure that can be used in research or clinical contexts, and that allows the study of differentiation of self in Portuguese young adults with different sexual orientations. The present study also contributed to fill the scarcity of studies regarding the differentiation of self in sexual minorities.

Keywords: Brief DSI-R; differentiation of self; young adults; sexual minority; validation

Agradecimentos

Todo o processo de realização desta dissertação foi um verdadeiro desafio, que sem o apoio e acompanhamento certo não teria sido possível de ultrapassar com sucesso, e por isso tenho de agradecer especialmente:

À Professora Doutora Luciana Sotero pela orientação e rigor, pelo apoio, pelos ensinamentos partilhados, bem como pelo constante encorajamento.

Ao Professor Doutor Jorge Gato pelo apoio e motivação, pelos conhecimentos e gosto transmitido pela estatística, que foram essenciais para a realização deste trabalho, e pela disponibilidade que sempre teve durante todo este processo.

Ao João, o meu namorado, pela paciência infinita, e amor incondicional, por ter sempre acreditado em mim e nas minhas capacidades, e acima de tudo por nos momentos mais difíceis me ter sempre apoiado e motivado a enfrentar os meus limites, sem nunca desistir.

Á Ana, a minha companheira desta viagem. Por todas as conversas, partilhas, suporte e desabafos. Esta experiência não teria sido a mesma sem ela, e no meio de momentos de desespero criou-se uma linda amizade.

Às minhas amigas Bruna e Joana, pela verdadeira amizade, paciência e apoio, e por estarem sempre presentes e prontas para me amparar, assim como, para festejarem comigo todas as pequenas vitórias.

E por fim, mas não menos importante, à minha família, que desejou e aguardou por este momento tanto quanto eu!

Index

Introduction.....	7
I. Conceptual framework	8
1.1. Murray Bowen's family systems theory.....	8
1.2. Measuring differentiation of self: DSI, DSI-R and DSI-SF.....	9
1.2.1. The Brief DSI-R developed by Sloan and Van Dierendonck (2016).....	11
1.3. Relationship/s between differentiation of self, family functioning, and mental health	12
1.4. Emerging adulthood, differentiation of self, and sexual orientation: How do they relate?	14
II. Objectives.....	15
III. Methodology	15
3.1. Participants.....	15
3.2. Research and sample collection procedures.....	16
3.3. Instruments.....	17
3.3.1. Sociodemographic questionnaire	17
3.3.2. Brief Differentiation of Self Inventory-Revised (Brief DSI-R) .	18
3.3.3. Family of Origin Functioning (SCORE-15-FO)	18
3.3.4. Life Satisfaction (SWLS).....	19
3.4. Data analysis procedure	19
IV. Results	20
4.1. Internal consistency of the original Brief DSI-R.....	20
4.2. Descriptive Analysis of the study variables	20
4.3. Construct Validity: Exploratory Factor Analysis (EFA)	20
4.4. Reliability of the Brief DSI-R (3 factor structure)	24
4.5. Factor Analysis: Confirmatory Factor Analysis (CFA).....	25
4.5.1. Reliability of the new structure of the Brief DSI-R.....	30
4.6. Convergent Validity	31
4.7. Differences in the Brief DSI-R as a function of sexual orientation...31	
V. Discussion	32
5.1. Strengths, limitations, and suggestions for future studies.....	36
VI. Conclusion	36

References	38
------------------	----

Introduction

Differentiation of self is a central concept in Murray Bowen's Family Systems Theory (Bowen, 1972), which represents an individual's ability to self-regulate within the context of his or her significant relationships. According to this theory, differentiation of self is transmitted from generation to generation, from parents to children (Cepukiene, 2020). In the last years diverse empirical studies about the differentiation of self show its impact, and relation to different emotional, and interpersonal aspects of individuals' lives, such as anxiety, as well as family, and psychosocial functioning (Cepukiene, 2020; Dolz-del-Castellar & Oliver, 2021; Miller et al., 2004).

In order to enable the assessment of the differentiation of self, a self-report instrument was created in 1998 by Skowron and Friedlander, the Differentiation of Self Inventory (DSI). The DSI is a multidimensional inventory comprising 43 items, and was the first instrument to assessing individual differences in various aspects of functioning that are central to the individual's (i) intrapsychic and interpersonal well-being, (ii) significant relationships as an adult, and (iii) current relationships with family of origin (Skowron & Friedlander, 1998). More recently, due to the need for creating a short version of this scale for research and clinical purposes, and which allows for its quick application, Sloan and Van Dierendonck (2016) developed the Brief Differentiation of Self Inventory-Revised (Brief DSI-R), reducing the scale to 20 items.

Sloan and Van Dierendonck (2016) encouraged conducting research using the Brief DSI-R with diverse groups of individuals in order to expand the generalizability of the use of the instrument. Concurrently, Jankowski and Hooper (2012) drew attention to the need of construct validation research of the differentiation of self to further examine diversity in terms of age, and sexual orientation. So, we considered to be very interesting and relevant to study the differentiation of self among a sample of lesbian women, gay men, bisexual individuals, and other persons with a non-heterosexual sexual orientation (from now on designated as LGB or sexual minority individuals). As Meyer (2003) suggested, emerging adulthood is a crucial time in the development of individuals who identify themselves as sexual minority because they endure specific, and unique stressors regarding their sexual orientation, including within the family (Rosario & Schrimshaw, 2013). In

that sense, the internalization of negative attitudes from the family regarding the individual's sexual orientation can decrease self-worth levels, and influence the level of self differentiation (Spencer & Brown, 2007).

Taking this into consideration, the present study aimed to adapt and validate the Portuguese version of the Brief DSI-R (Sloan & Van Dierendonck, 2016), among a sample of heterosexual and sexual minority emerging adults. With this research work we hope to contribute to the knowledge of the differentiation of self process in young adults taking into consideration their sexual orientation, and to provide an instrument that is reliable and ecologically valid.

I. Conceptual framework

1.1. Murray Bowen's family systems theory

Murray Bowen's Family Systems Theory (Bowen, 1972), advocates the importance of autonomy, and interdependence processes in the development of the individual and the family. According to this theory, there is a transmission of relational patterns from the family of origin to the next generation (Bowen, 1978). In this way, the social, cognitive, and emotional development of an individual is interconnected with parental relational patterns, which will subsequently influence the degree of autonomy, differentiation of self, and type of relationships that he/she will build throughout his/her life (Bowen, 1972; Cepukiene, 2020; Lampis et al., 2020). In other words, according to Bowen, differentiation of self develops within meaningful relationships with parents. Differentiation of self concerns an individual's ability to balance their intellectual, and emotional function, and their autonomy, and intimacy in their relationships (Bowen, 1972; Skowron & Friedlander, 1998). On an intrapersonal level, the differentiation of self refers to the ability to distinguish thoughts from feelings. On an interpersonal level, it refers to an individual's ability to experience intimacy with others while maintaining independence (Rodríguez-González et al., 2019; Skowron & Friedlander, 1998).

Differentiation of self has been one of the most studied concepts of Murray Bowen's family systems theory to date, especially in terms of its impact on mental health, and relationships. In fact, individuals with a greater differentiation of self deal more adequately with stress, and have less anxiety,

and depression symptoms (Lampis et al., 2020; Murdock & Gore Jr., 2004; Peleg & Messerschmidt-Grandi, 2019). They also have greater marital satisfaction, and have better family, and psychosocial functioning (Cepukiene, 2020; Rodríguez-González et al., 2019; Rodríguez-González et al., 2020). These results, taken together, suggest support for Bowen's theory (1978) that differentiation of self is an important aspect of psychological well-being.

1.2. Measuring differentiation of self: DSI, DSI-R and DSI-SF

As a way to assess, support, and test Bowen's Family Systems Theory, Skowron and Friedlander (1998) developed the DSI. The development process of the instrument encompassed three studies, with a total sample of 609 adult participants. The first study aimed to create the instrument, and yielded four subscales: (1) Emotional Reactivity, (2) I-Position, (3) Reactive Distancing, and (4) Fusion with Parents (the last two subscales were later renamed in this same study). The second study aimed to make a theoretical, and content review of the scale's items, and the third one served to evaluate the factor structure of the DSI (Skowron & Friedlander, 1998).

Differentiation of self as measured by the DSI is thus divided into two levels, namely, the intrapersonal level which includes the subscales Emotional Reactivity (ER), and I-Position (IP), and the interpersonal level which includes the subscales Emotional Cut-off (EC), and Fusion with Others (FO) (Skowron & Friedlander, 1998). In general, the four subscales can be defined as follows: (1) ER refers to the individual's tendency to react with a large emotional charge when faced with more stressful situations; (2) IP is the individual's ability to stay true to his/her values, and self-awareness; (3) EC refers to an individual's detachment when faced with a relationship as a way of dealing with conflict; and, finally, (4) FO is the tendency to create fusional, and dependent relationships with significant others (Peleg & Messerschmidt-Grandi, 2019; Skowron & Friedlander, 1998).

Regarding the psychometric properties of the original DSI, the instrument revealed good reliability indicators (between .88 and .74), both for the total scale and for the subscales (Skowron & Friedlander, 1998). Confirmatory factor analyses provided support for the construct validity of the DSI, allowing the conclusion that the instrument's subscales were identifiable, and empirically distinct dimensions of a single construct (i.e., differentiation

of self) (Skowron & Friedlander, 1998). Differentiation of self estimated by the DSI subscales, correlated significantly with symptomatic distress, and also showed a strong relationship with marital satisfaction (Skowron & Friedlander, 1998). Despite being an instrument with good psychometric properties, studies conducted on the DSI have not yielded sufficient evidence for the FO subscale's psychometric, and construct validity (Skowron & Schmitt, 2003).

In 2003 the original instrument was revised by Skowron and Schmitt, to strengthen the reliability, and construct-related validity of the FO subscale, to better assess “elements of interpersonal fusion overlooked in the initial scale development, namely, heavy reliance on others for assistance in decision making, and a tendency to hold few constant beliefs of one's own, along with emotional overinvolvement with others” (Skowron & Schmitt, 2003, p.216). Most of the items of the FO subscale were replaced by new ones, and their number increased from nine to twelve (cf., Table 1). The revised instrument (i.e., the Differentiation of Self Inventory-Revised (DSI-R)) consisted of 46 items, with an internal consistency for the total scale of .88, and for its subscales, respectively FO = .86; ER = .89; IP = .81; and EC = .84 (Skowron & Schmitt, 2003). However, this scale remained problematic. As Rodríguez-González et al. (2015) stated, many validation studies of the DSI-R conducted in different countries (e.g., Russia, China, Portugal, the Philippines, and Spain), have revealed that the FO and IP subscales have less cross-cultural stability. According to the authors (Rodríguez-González et al., 2015) this may be related to cross-cultural variations in the construct of differentiation of self. For instance, in their validation study of the DSI-R for the Spanish population, the IP and FO subscales did not emerge as conceptually distinct dimensions. In the validation study of the DSI-R for Portugal, an exact replication of the factor structure of the DSI-R was not obtained either, and it was found that the FO subscale was reduced to only 4 items, since several items that originally constituted this subscale scored in other subscales (Major et al., 2014).

In 2015, a short form of the DSI-R scale, the Differentiation of Self Inventory-Short Form (DSI-SF) with 20 items (cf., Table 1), emerged given the pertinence of a shorter scale that could alleviate respondent fatigue, and be more readily applied in both research, and clinical settings (Drake et al., 2015). The psychometric studies indicated that DSI-SF, and its subscales had

an alpha ranging from .68 to .88 (cf., Table 1). Thus, the instrument showed a good test–retest reliability, as well as a good structural, and convergent validity, suggesting that DSI-SF is a more efficient scale that still retained good psychometric properties (Drake et al., 2015). However, a major limitation of this DSI-SF study (Drake et al., 2015) is that the scale was adapted, and validated with a sample of college students, which motivated Sloan and Van Dierendonck (2016) in the following year to create the Brief DSI-R with a broader sample of adults. Next, the process of validation of this brief version, validated in the present study, will be described in further detail.

1.2.1. The Brief DSI-R developed by Sloan and Van Dierendonck (2016)

The Brief DSI-R consists of 20 items equally distributed by four subscales (cf., Table 1). The adaptation process of this instrument involved two studies, with a total sample of 866 participants. In the first study, an Exploratory Factor Analysis (EFA) was performed with the DSI-R, and in the second study a Confirmatory Factor Analysis (CFA) was performed comparing the model fit between the Brief DSI-R, the DSI-SF, and the full DSI-R (Sloan & Van Dierendonck, 2016).

In the EFA of the DSI-R, the items with the highest item-total correlations were selected, and the items with lowest loadings on their own dimension as well as loading on multiple factors were eliminated, thus arriving at a short version of the scale, consisting of the essential items of each subscale. The FO subscale was the only one in which the items loaded across different factors (Sloan & Van Dierendonck, 2016).

The authors (Sloan & Van Dierendonck, 2016) conducted a CFA comparing the model fit between the Brief DSI-R, the DSI-SF, and the full DSI-R, and repeated the same CFA on a second independent sample. The results showed that the Brief DSI-R version had a better model fit than both the DSI-SF version (Drake et al., 2015), and the full DSI-R instrument (Skowron & Schmitt, 2003), while keeping the internal consistency of the subscales intact. The Brief DSI-R showed good construct and factor validity, good internal consistency, and content validity comparable to that of the DSI-R (Sloan & Van Dierendonck, 2016). These results suggested that this brief version was a valid alternative with the ability to capture the complexity of each subscale (Sloan & Van Dierendonck, 2016).

Table 1

Number of items and internal consistency of the DSI, DSI-R, DSI-SF, and Brief DSI-R, and their respective subscales

	Subscales	Items	α Cronbach
DSI (Skowron & Friedlander, 1998)	ER	11	.84
	IP	11	.85
	EC	12	.82
	FO	9	.74
	Total	43	.88
DSI-R (Skowron & Schmitt, 2003)	ER	11	.89
	IP	11	.81
	EC	12	.84
	FO	12	.86
	Total	46	.88
DSI-SF (Drake et al., 2015)	ER	6	.80
	IP	6	.70
	EC	3	.79
	FO	5	.68
	Total	20	.88
Brief DSI-R (Sloan & Van Dierendonck, 2016)	ER	5	.85
	IP	5	.70
	EC	5	.76
	FO	5	.76
	Total	20	.90

Note. ER = Emotional Reactivity; IP = I-Position; EC = Emotional Cut-Off; FO = Fusion with Others

1.3. Relationship/s between differentiation of self, family functioning and mental health

As stated in Bowen's (1978) theory, the degree of differentiation of self depends largely on the family history and emotional dynamics, providing a framework for understanding how the functioning of a family system plays an important role in healthy personal adaptation. Thus, a well-differentiated family supports individuals in achieving a higher level of differentiation and encourages young children to develop the ability to take their own position (Chung & Gale, 2008); whereas members of dysfunctional families struggle to have differentiated identities, and are instead fused (Chung & Gale, 2008). Therefore, there is a positive relationship between family functioning and differentiation of self, in such a way that the better the family functioning, the higher the level of differentiation of self presented by its members (Dolz-del-Castellar & Oliver, 2021).

In previous research, it was also found that differentiation of self and family functioning predicted both 50.3% of the level of trait anxiety (Dolz-del-Castellar & Oliver, 2021). In other words, individuals who are better able to differentiate themselves, on the one hand, and who perceive that their families are more cohesive and adaptable, on the other hand, have a lower trait anxiety (Dolz-del-Castellar & Oliver, 2021). A greater differentiation of self allows for better coping with emotions, especially at times of higher stress, as well as allowing for a greater balance between closeness and separation in significant relationships (Rodríguez-González et al., 2019). Studies on mental health and its relationship with the differentiation of self show that individuals with a higher level of differentiation of self, in times of stress, are usually governed by their values (Lampis et al., 2020; Peleg & Messerschmidt-Grandi, 2019). They are also more autonomous in managing their emotions, possessing a greater capacity for flexibility and adaptation, which makes the stress itself have a lower impact (Lampis et al., 2020; Murdock & Gore Jr., 2004; Rodríguez-González et al., 2019). Whereas individuals with less differentiation of self depend on the help of someone significant to ease their own anxiety, reacting in a more emotional, impulsive, and dysfunctional way, and revealing a greater psychological symptomatology (Lampis et al., 2020; Murdock & Gore Jr., 2004; Rodríguez-González et al., 2019). Furthermore, individuals with more prominent anxiety traits are characterized by having a low level of IP (Cepukiene, 2020). In turn, ER is the strongest predictor of the symptoms such as depression, anxiety, and physical problems (Cepukiene, 2020; Lampis et al., 2020; Peleg & Messerschmidt-Grandi, 2019). Also in the study of Sloan & Van Dierendonck (2016), that originated the Brief DSI-R, it was confirmed that differentiation of self was significantly related to effortful control, to attachment anxiety, and to avoidance. Therefore, differentiation of self seems either to constrain or enable the individual's capacity for self-regulation or effortful control, as well as his/ her tendency to exhibit anxious or avoidant behaviors (Sloan & Van Dierendonck, 2016). In brief, over the years there have been several studies that support Bowen's assertions that differentiation of self "is a core characteristic that determines a person's relationship with self and others, his ability to function under stress, and to develop meaningful, and intimate relationships that shape his experience of his overall well-being" (Cepukiene, 2020, p.10).

1.4. Emerging adulthood, differentiation of self, and sexual orientation: How do they relate?

Emerging adulthood is a developmental period that lies between adolescence and adulthood, from 18 to 30 years old (Rindfuss, 1991). In industrialized societies, this is a phase characterized by semi-autonomy. If, on the one hand, there is a growing independence from the family, on the other hand, emerging adults have not yet assumed the lasting responsibilities that are normative in adulthood (e.g. despite having greater freedom, they are often still living with their parents, and aren't financially independent) (Arnett, 2000). Thus, this period is marked by the existence of a certain freedom in exploring different directions in life, such as in the areas of affection, profession, and identity itself (Arnett, 2000). Instability, self-focus, and the perception of the presence of multiple possibilities regarding the future also characterize this stage (Monteiro et al., 2009).

Emerging adulthood is a crucial time in the development of individuals who identify themselves as sexual minority because they are faced with unique stressors related to their sexual orientation, arising from the existing stigma (Meyer, 2003). The process of disclosure of an LGB orientation to the family of origin is often marked by family rejection (Toledo & Filho, 2013). This way, for sexual minority individuals this disengagement from their family of origin towards their self-discovery, and identity affirmation, results in an increased challenge (Kusnetzoff, 1991). Corroborating this idea, findings from an exploratory study on family functioning, differentiation of self, and life satisfaction in Portugal (Leonardo, 2020), showed that heterosexual participants reported higher levels of differentiation of self when compared with their LGB counterparts. This was attributed to a possible sexual identity concealment on the part of LGB participants in order to not compromise family balance (Leonardo, 2020). On another study, developed by Bastos (2020), differentiation of self predicted identity dissatisfaction among LGB people when individuals were not out to family. As LaSala (2010) suggested, individuals with lower levels of differentiation of self might have higher levels of internalized homophobia due to the fact that they don't feel at ease assuming their identity, and may even submit to other's opinion in order to feel accepted.

Despite some pioneering results (Bastos, 2020; Leonardo, 2020), there is still a scarcity of studies on the differentiation of self among sexual minority emerging adults, which highlights the importance of validating the Brief DSI-R instrument considering not only heterosexual but also non-heterosexual individuals.

II. Objectives

The main objective of this study was to adapt and validate the Brief DSI-R (Sloan & Van Dierendonck, 2016), in a sample of heterosexual and sexual minority Portuguese young adults. In order to achieve this goal, this research included the following specific objectives:

- 2.1. To establish the construct validity, reliability, and convergent validity of the Brief DSI-R;
- 2.2. To analyze sexual orientation differences in the the total score, and subscales of the Brief DSI-R.

III. Methodology

3.1. Participants

The sample was constituted by 253 participants ranging in age from 18 to 30 years ($M = 22.79$; $SD = 3.01$). As can be seen in Table 2, regarding gender, women were more prominent. Concerning sexual orientation, the sample was evenly distributed between heterosexual individuals ($n = 125$), and non-heterosexual individuals ($n = 128$). With regard to current relationship status, most participants were single or in a dating relationship. As for the participants' educational level, university degree was predominant. With regard to work status, we observed that the sample was mostly composed of students and workers. In relation to religion, most participants were catholic, atheist, or agnostic. Finally, the most representative areas of residence of the sample were the North, followed by the Alentejo, the Azores, and the Center.

Table 2*Sociodemographic characteristics of the sample*

		<i>n</i>	%
Gender	Women	172	68.0
	Men	81	32.0
Sexual Orientation	Heterosexual	125	49.4
	Gay	33	13.0
	Lesbian	28	11.1
	Bisexual	59	23.3
	Other	8	3.2
Current relation situation	Single	138	53.3
	In an open relationship	13	5.0
	In a dating relationship	97	37.5
	Non-marital partnership	8	3.1
	Married	1	0.4
	Divorced	2	0.8
Educational Level	9th grade	7	2.8
	12th grade	68	26.9
	Professional course	19	7.5
	University degree	159	62.8
Work Status	Student	138	54.5
	Working Student	12	4.7
	Worker	65	25.7
	Unemployed	20	7.9
Religion	Agnostic	70	27.7
	Atheist	80	31.6
	Catholic	90	35.6
	Protestant	4	1.6
	Other	5	2.0
Residence Area	Azores	40	15.8
	Madeira	4	1.6
	North	106	41.9
	Center	34	13.4
	Lisbon and Tagus Valley	20	7.9
	Alentejo	43	17.0
	Algarve	6	2.4

3.2. Research and sample collection procedures

To develop the Portuguese version of the Brief DSI-R, the 20 items corresponding to the original version of the instrument were used, and they underwent a strict translation and back-translation process, following the guidelines of Gjersing et al. (2010): (1) two independent translations of the original version (English-Portuguese); (2) synthesis of the translated versions to obtain a single version; (3) two retroversions of the synthesized version

(Portuguese-English); (4) synthesis of the retroverted versions, obtaining a single version; (5) discussion and evaluation of the Portuguese translation resulting from this process; (6) and conduct a pilot study with eight subjects to determine whether the translation obtained was understandable and/or needed adjustments. Since the participants identified no difficulties, the final version was adopted for the study of the Portuguese validation of the Brief DSI-R.

The data were collected through an online survey, from December 2019 to March 2020, in the context of two previous research projects at the FPCEUC (Bastos, 2020; Leonardo, 2020). Prior to the application of the research protocol, the two Master's students conducted a pilot study with four participants (two gay and two straight people). In this initial study, an oral reflection interview was conducted with each participant in order to ascertain the validity of the instruments. That said, the following aspects were recorded: (1) the average response time; (2) remarks on the introduction to the protocol, specifically on the clarification of the objective, and instructions for its completion; (3) remarks on the items of the questionnaire in terms of their clarity, adequacy, and redundancy; and (4) suggestions for reformulation. Once this phase was concluded, the online protocol was built, and organized using the LimeSurvey software. Data was collected using a convenience, and snowball sampling method, through the dissemination of the study on online social networks, and with the outreach support from LGBTQ+ associations. The first page of the questionnaire consisted of an informed consent where the objectives of the study, confidentiality, anonymity, and the voluntary nature of the participation were mentioned. The inclusion criteria were as follows: (1) being at least 18 years old, and (2) residing in Portugal.

3.3. Instruments

3.3.1. Sociodemographic questionnaire

The sociodemographic questionnaire was built for this study to collect participants' data, namely their age, gender, sexual orientation, relationship status, education level, professional situation, religion, and residence area.

3.3.2. Brief Differentiation of Self Inventory-Revised (Brief DSI-R)

To evaluate the differentiation of self we resorted to the Brief DSI-R (Sloan & Dierendonck, 2016). This instrument is composed by 20 items organized into four factors: ER, IP, EC and FO, with five items on each of the four subscales. With the exception of the IP subscale, scores must be reversed (Sloan & Van Dierendonck, 2016; Skowron & Schmitt, 2003). The items are presented in a 6-point Likert type scale, from 1 (*Nothing true to me*) to 6 (*Very true to me*). The higher the scores of the total scale and the subscales, the greater the differentiation of self.

With regard to its reliability, the Brief DSI-R showed a good internal consistency, both for the total scale ($\alpha = .90$), and the respective factors (ER, $\alpha = .85$; IP, $\alpha = .70$; EC, $\alpha = .76$; FO, $\alpha = .76$) (Sloan & van Dierendonck, 2016).

3.3.3. Family of Origin Functioning (SCORE-15-FO)

To evaluate family functioning, the Systemic Clinical Outcome and Routine Evaluation – Family of Origin (SCORE-15-FO; Rocha, 2018) was used. This instrument aims to assess various aspects of family functioning in the family of origin, and comprises 15 items, divided into three dimensions: (1) Family Resources, (2) Family Communication, and (3) Family Difficulties. The items are rated according to a 5-point Likert-type scale, ranging from 1 (*Describes us very well*) to 5 (*Describes us very poorly*). In the ratings of the dimensions Family Difficulties, and Family Communication, the items should be reversed. Regarding the interpretation of the results, higher scores mean worse family functioning (Vilaça et al., 2014).

The Portuguese validation studies of the SCORE-15-FO indicated a good internal consistency for the total scale ($\alpha = .90$), as well as for the dimensions Family Resources ($\alpha = .84$), and Family Communication ($\alpha = .87$), whereas the dimension Family Difficulties obtained a reasonable level of internal consistency ($\alpha = .72$) (Rocha, 2018). In the present study, very good values were obtained for the total scale ($\alpha = .95$), as well as for its three dimensions: Family Difficulties ($\alpha = .91$), Family Communication ($\alpha = .84$), and Family Resources ($\alpha = .89$).

3.3.4. Life Satisfaction (SWLS)

To assess life satisfaction, the Portuguese version of the Satisfaction with Life Scale was used (SWLS; Diener et al., 1985; Neto et al., 1990). The SWLS has the purpose of assessing subjective well-being through a cognitive-judgmental process (Diener et al., 1985). This is a single-factor self-report instrument, composed of five items rated on a Likert-type scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*), with higher scores meaning greater satisfaction with life. The Portuguese version (Neto et al., 1990) showed a reasonable internal consistency ($\alpha = .78$). In the present study the instrument revealed a good internal consistency coefficient ($\alpha = .85$).

3.4. Data analysis procedure

Data analysis was performed using IBM SPSS Statistics 25, and the IBM SPSS AMOS 25 softwares. Initially, an EFA was performed using the Principal Components Analysis method with Varimax rotation to determine the factorial structure of the set of variables, and the number of latent constructs (factors). This analysis was carried out with the subsample of heterosexual participants ($n = 125$). The instrument's internal consistency was assessed by determining the Cronbach's alpha value.

To further evaluate the construct validity of the Brief DSI-R, we performed a CFA among non-heterosexual participants ($n = 128$), exploring which model would fit better the data by inspecting the following adjustment quality indexes: ratio Chi-square/ degrees of freedom (χ^2/df), Comparative Fit Index (CFI), Goodness-of-Fit Index (GFI), Tucker-Lewis Index (TLI), Root Mean-Squared Error of Approximation (RMSEA), Akaike Information Criterion (AIC), and Modified Expected Cross-Validation Index (MECVI). Values $>.90$ in CFI, GFI, and TLI indicate a good adjustment of the model (Byrne, 2013). According to Melhado (2004, cit. in Bulhões, 2013), RMSEA values between .05 and 1 are considered reasonable. We also calculated the Composite Reliability (CR), and Average Variance Extracted (AVE) for all subscales, and the Stratified Cronbach's alpha for the total scale. According to Marôco (2010), generally the CR should be ≥ 0.7 and the AVE ≥ 0.5 . Also to analyze the reliability of the instrument we use the Cronbach's alpha to assess internal consistency. In order to establish convergent validity, we carried

out *Pearson* correlations between the differentiation of self (Brief DSI-R), and the family functioning (SCORE-15-FO), and satisfaction with life (SWLS) instruments. Finally, we conducted an independent-samples t-test with the total score, and subscales of the Brief DSI-R, to inspect differences in differentiation of self as a function of sexual orientation.

IV. Results

4.1. Internal consistency of the original Brief DSI-R

The total scale presented a good internal consistency value of $\alpha = .87$, as did the ER subscale ($\alpha = .83$). However, the IP, the EC, and the FO subscales presented low consistency values ($\alpha = .55$; $\alpha = .62$, and $\alpha = .67$, respectively).

4.2. Descriptive Analysis of the study variables

Descriptive analyses were performed, and were analyzed the mean, standard deviation, kurtosis, skewness, and the significance of the Kolmogorov-Smirnov test for the instruments used in this study. The Brief DSI-R ($M = 3.88$; $SD = 0.80$; $Sk = -0.17$; $Ku = -0.34$; $K-S = .082$) showed a normal distribution. However, the SCORE-15-FO ($M = 3.00$; $SD = 1.08$; $Sk = 0.06$; $Ku = -1.16$; $K-S = <.001$), and the SWLS ($M = 22.57$; $SD = 6.83$; $Sk = -0.32$; $Ku = -0.70$; $K-S = <.001$) showed significant values in Kolmogorov-Smirnov test. Since the skewness, and kurtosis indexes of all instruments were within the normal range, and with samples with more than 30 participants the violation of the assumption of normality of distribution is not problematic (Gravetter & Wallnau, 2000, as cited in Pallant, 2005), we proceeded with the use of parametric tests.

4.3. Construct Validity: Exploratory Factor Analysis (EFA)

An EFA was performed using the Principal Components Analysis method, followed by Varimax rotation. Initially, the appropriateness of using the chosen factor analysis method was assessed, considering the Kaiser-Meyer-Olkin (KMO) criterion, and Bartlett's Test of Sphericity (Pallant, 2005). Considering the generated correlation matrix, the adequacy of the

sample was confirmed for the analysis performed [$KMO = .80$; $\chi^2 = 718.41$, $p < .001$]. For factor extraction, the Kaiser criterion was considered, according to which only factors with eigenvalues greater than 1 should be retained (Pallant, 2005).

The Varimax rotation revealed a factor structure consisting of six factors, explaining 60.54% of the total variance. However, when analyzing the curve of the generated scree plot, some ambiguities in interpretation were found, and so Varimax rotation with four fixed factors was performed again, considering the structure proposed by the original authors (Sloan & Dierendonck, 2016). Items 6, 9, and 14 loaded on more than two or three factors, and were therefore eliminated. After this, Factor 4 comprised only two items, and presented an unacceptable Cronbach's alpha ($\alpha = .33$). For that reason, it was decided to proceed with Varimax rotation with three fixed factors, and this solution explained 42.69% of the total variance. We then proceeded to eliminate items 6, 14, and 18, since item 18 did not load on any of the factors, and its communality value was also the lowest of all items. As for items 6 and 14, they loaded on two factors with very approximate values.

In this solution, three factors comprised items from different subscales of the original proposed structure. After reading and interpreting each of the items that scored in each factor, we concluded that Factor 1 (items 4, 5, 7, 8, 10, 17, and 19) corresponded to ER, Factor 2 (items 1, 2, 9, 12, 15, and 16) to IP, and Factor 3 (items 3, 11, 13, and 20) to EC (cf., Table 3). In Factor 1, which we consider to represent the ER subscale, three items (item 5, “*When I am having an argument with someone, I can separate my thoughts about the issue from my feelings about the person*”; item 8, “*There's no point in getting upset about things I cannot change*”; and item 19, “*I tend to feel pretty stable under stress*”) that scored in this factor, corresponded to the IP subscale in the original instrument. However, these items refer to the individual's emotional control capacity, which made us consider that they were indeed adequate to the ER subscale, since this subscale assesses the emotional reaction to stressful situations (Skowron & Friedlander, 1998). Regarding the IP subscale, four items that scored in this factor correspond to different subscales compared to the original instrument, items 1 (“*I often feel inhibited around my family*”), and 9 (“*I'm concerned about losing my independence in intimate relationships*”), originally corresponded to the EC subscale, and items 12 (“*I*

Table 3*Exploratory Factor Analysis (Varimax rotation) of the Brief DSI-R*

Items	Factors		
	1	2	3
8	-.678		
17	.677		.434
10	.635	.310	.416
7	.574		.382
5	-.547		
6	.523	.473	
4	.507	.350	.328
19	-.396		
12		.690	
15		-.631	
16		.623	.363
1		.568	
2	-.332	-.552	
9		.397	
14	.323	.334	
3			.725
11			.676
20			.644
13			.425
18			
% explained variance	26.960	8.103	7.625
eigenvalue	5.392	1.621	1.525

often agree with others just to appease them”), and 16 (“I often feel unsure when others are not around to help me make a decision”), to the FO subscale. However, these four items, whose scores must be reversed, are related to autonomy, decisiveness, and sense of self, and since the IP subscale assesses an individual's ability to remain true to himself, and his own values (Skowron & Friedlander, 1998), it made sense for these items to be included in this subscale. Finally, two items (item 3, “When my spouse/partner criticizes me, it bothers me for days”; item 20, “Sometimes I feel sick after arguing with my spouse/partner”) that scored on the EC subscale originally belonged to the

Table 4

Comparison of factor loadings between the 4-factor structure, and the 3 factor structure obtained in the AFE

Items	Four factor structure	Three factor structure
1	IP	IP
2	IP	IP
3	EC	EC
4	ER	ER
5	ER	ER
6	ER	ER
7	ER	ER
8	ER	ER
9	IP	IP
10	ER	ER
11	EC	EC
12	IP	IP
13	FO	EC
14	EC	IP
15	IP	IP
16	IP	IP
17	ER	ER
18	FO	-
19	ER	ER
20	EC	EC

Note. ER = Emotional Reactivity; IP = I-Position; EC = Emotional Cut-Off; FO = Fusion with Others

FO subscale. These items refer to the negative impact of marital conflicts on the individual, and taking into account that the EC subscale is precisely related to the impact of conflict in significant relationships on the individual, and his tendency to deal with it through emotional cut-off (Skowron & Friedlander, 1998), it led us to consider these items adequate, and pertinent in the assessment of this subscale. Furthermore, these decisions were also supported by the fact that when we compared the loadings obtained in the 4-factor structure, and the 3-factor structure in the EFA, the vast majority of the items scored on the same factors (cf., Table 4).

4.4. Reliability of the Brief DSI-R (3 factor structure)

To further establish the reliability of the 3 factor structure of the Brief DSI-R, the Cronbach's alpha coefficient was calculated. The result for the total scale was very good ($\alpha = .82$) (DeVellis, 2017), for the ER subscale the value was considered acceptable ($\alpha = .78$), for the IP it was classified as minimally acceptable ($\alpha = .67$), and for the EC it was considered undesirable ($\alpha = .62$). However, as we can see in Table 5, when compared to the original scale, the value of IP and EC have improved.

Table 5

Reliability of the Brief DSI-R (α Cronbach)

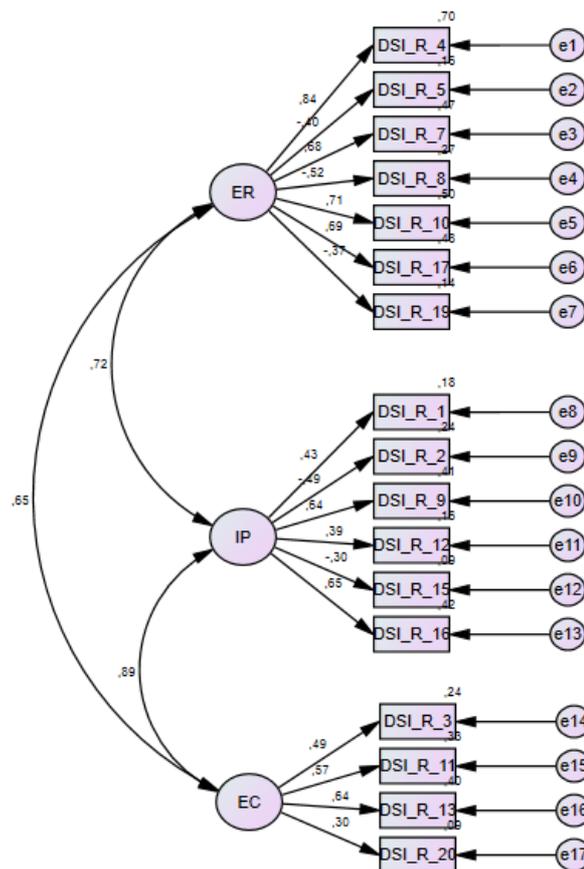
	Original Structure (Sloan & Dierendonck, 2016)	3 Factor Structure
Total Score	.84	.82
Emotional Reactivity	.81	.78
I-Position	.50	.67
Emotional Cut-Off	.44	.62
Fusion with Others	.69	-

4.5. Factor Analysis: Confirmatory Factor Analysis (CFA)

In order to analyze the internal structure of the Brief DSI-R in a sample of sexual minority participants, we first tested two models: (i) one model with the three correlated subscales (c.f., Figure 1), and (ii) one containing the three hypothesized subscales regressing on a second-order latent variable (c.f., Figure 2). The two models showed the same adjustment indexes: $\chi^2/df = 1.821$, CFI= .824, GFI= .846, TLI= .794, and RMSEA = .080, and revealed that this structure did not fit the data.

Figure 1

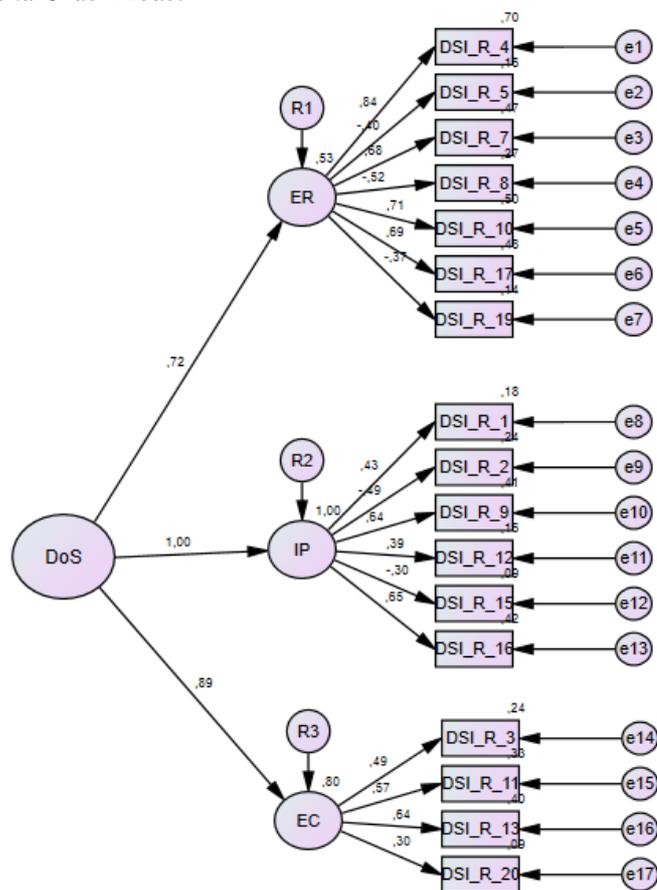
Model 1: Three correlated subscales model



Note. ER – Emotional Reactivity; IP – I-Position; EC – Emotional Cut-Off

Figure 2

Model 2: Second-Order Model

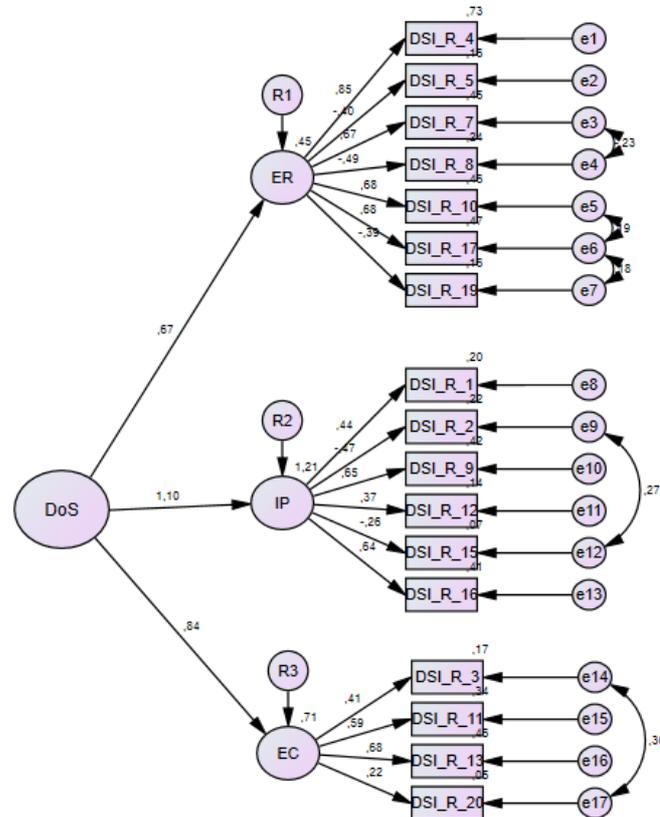


Note. ER – Emotional Reactivity; IP – I-Position; EC – Emotional Cut-Off

Taking into account the relevance of the construct of differentiation of self in this instrument, the fact that both models presented exactly the same adjustment indexes, and the factor loadings of the three subscales with the second-order latent were strong, we decided to keep the model with three subscales regressing on a second-order variable. In order to improve the adjustment of the instrument, after analysing the suggested modification indices, we correlated the errors that presented the highest covariance within the same factor (3-4, 5-6, 6-7, 9-12, and 14-17) (c.f., Figure 3). The adjustment quality indices improved but was still considered weak as shown in Table 6 (Marôco, 2010).

Figure 3

Model 3: Second-Order Model, with errors 3-4, 5-6, 6-7, 9-12, and 14-17 correlated



Two more models were tested, Model 4 (c.f., Figure 4), where items 15, and 20 were eliminated considering that their factor loadings in the previous model were the lowest (-.26 and .22, respectively) (Marôco, 2010). In addition, we kept the errors 3-4, 5-6, and 6-7 correlated. However, despite a slight improvement in the model's fit indices, they were still not satisfactory, and therefore, after a new analysis of the modification indices, in Model 5 (c.f., Figure 5), we decided to add the correlation between errors 2-6, since these errors showed a high covariance value.

Figure 4

Model 4: Second-Order Model, with errors 3-4, 5-6, and 6-7 correlated, and with items 15 and 20 deleted

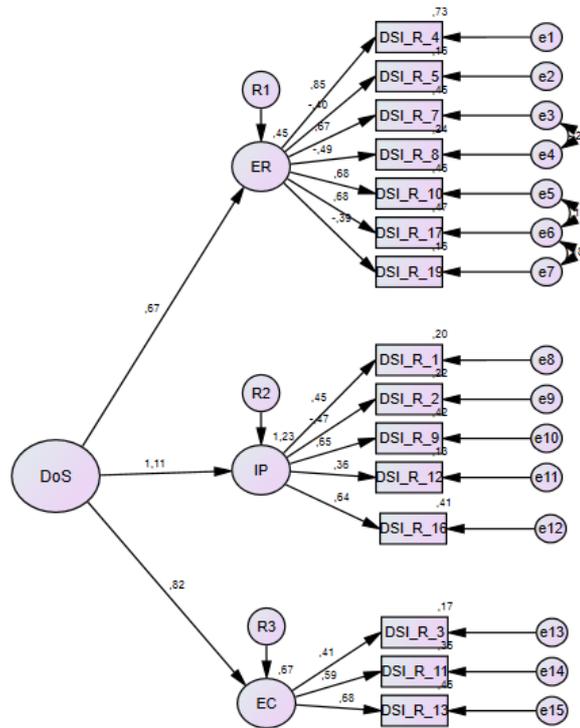
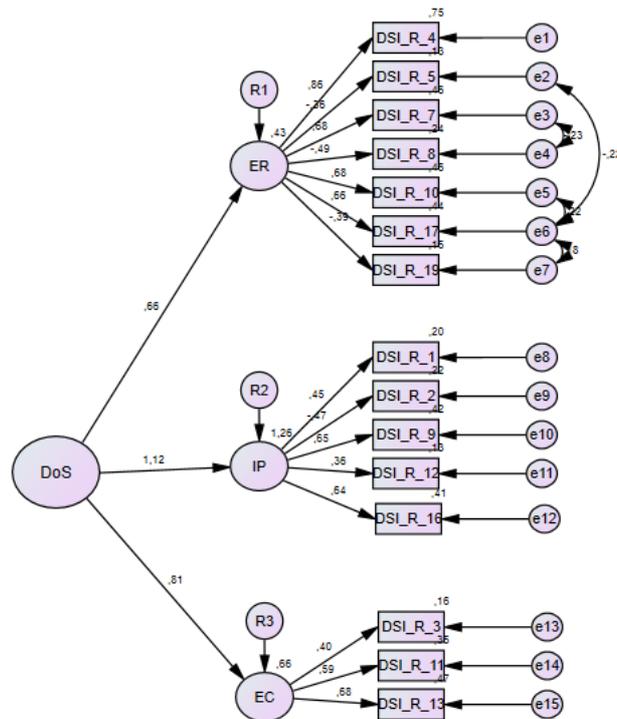


Figure 5

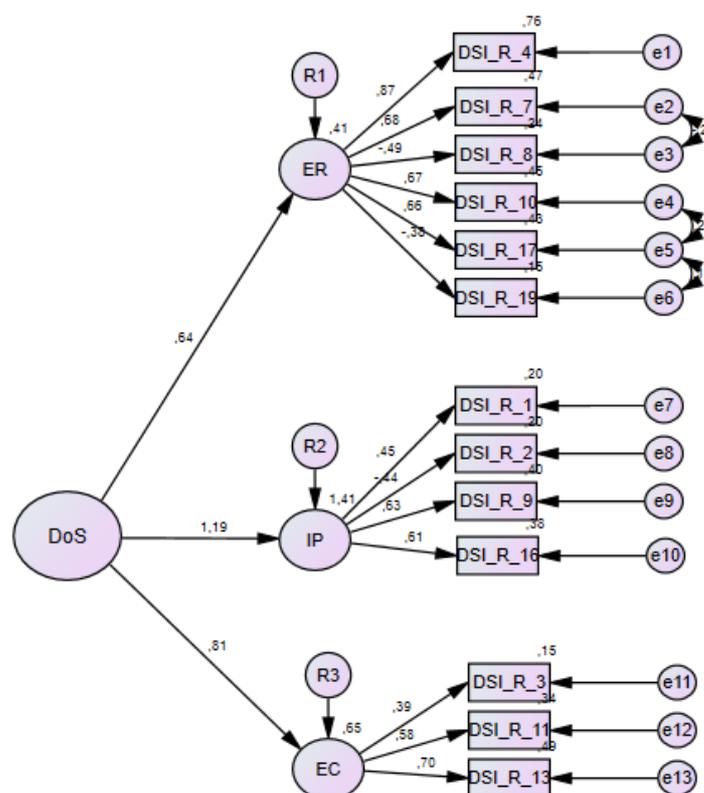
Model 5: Second-Order Model, with errors 3-4, 5-6, 6-7, and 2-6 correlated, and with items 15 and 20 deleted



Finally, in Model 6 (c.f., Figure 6) we kept the correlated errors 2-3, 4-5, and 5-6, but in addition to the elimination of items 15, and 20, we also removed items 5, and 12, taking into account that they were the items with the lowest factor loadings in Model 5. This new model presented a good fit of the modified Brief DSI-R structure to the sample under study ($\chi^2/df = 1.556$, CFI= .927, GFI= .903, TLI= .903, and RMSEA = .066) (Marôco, 2010).

Figure 6

Model 6: Second-Order Model, with errors 2-3, 4-5, and 5-6 correlated, and with items 5, 12, 15 and 20 deleted



All the subscales showed weak values regarding CR and AVE: Emotional Reactivity, CR= .537, and AVE= .416; I-Position, CR= .580, and AVE= .326; Emotional Cut-Off, CR= .358, and AVE= .294, thus revealing some weakness in construct reliability, and convergent validity (Marôco, 2010). However, the Stratified Alpha for the total scale revealed a good result

of $\alpha = .85$, thus demonstrating a good level of reliability of the total scale (Marôco & Garcia-Marques, 2006).

Table 6

Model Fit Indices of the Brief DSI-R

	χ^2/df	CFI	GFI	TLI	RMSEA	AIC	MECVI
Model 1	1.821	.824	.846	.794	.080	285.231	2.342
Model 2	1.821	.824	.846	.794	.080	285.231	2.342
Model 3	1.602	.877	.868	.849	.069	261.877	2.171
Model 4	1.663	.888	.879	.861	.072	211.720	1.749
Model 5	1.612	.898	.884	.871	.069	207.809	1.720
Model 6	1.556	.927	.903	.903	.066	155.811	1.289

4.5.1. Reliability of the new structure of the Brief DSI-R

The reliability of the new structure of the Brief DSI-R was assessed by calculating the internal consistency (Cronbach's alpha), for the total sample, as well as for the heterosexual, and sexual minority participants. The value of Cronbach's alpha was considered very good for the total scale, for the ER subscale the value was considered acceptable, for the IP it was classified as undesirable (among the heterosexual participants it was considered unacceptable), and finally, for the EC it was considered unacceptable for both the total sample and the two subsamples, as can be seen in Table 7.

Table 7

Reliability of the new structure of the Brief DSI-R (Model 6) (α Cronbach)

	Total Sample	Heterosexual	Non-Heterosexual
Total Score	.84	.80	.84
Emotional Reactivity	.79	.78	.80
I-Position	.61	.56	.61
Emotional Cut-Off	.57	.53	.57

4.6. Convergent Validity

The analysis of the convergent validity was performed (with the whole sample) correlating the obtained new structure of the Brief DSI-R, with the SCORE-15-FO (Rocha, 2018), and the SWLS (Neto et al., 1990). In Table 8, we can see that the Brief DSI-R, and its respective subscales, did not correlate with the SCORE-15-FO total scale, nor with its three dimensions. However, the Brief DSI-R total scale presented a positive, significant, and large correlation with the SWLS, and the Brief DSI-R subscales presented a positive, significant, and moderate correlation with the SWLS (Cohen, 1988), meaning that the greater the differentiation of self, the greater the satisfaction with life.

Table 8

Pearson's Correlations

	Family of Origin Functioning (SCORE-15- FO)	Family Resources (SCORE- 15-FO)	Family Difficulties (SCORE- 15-FO)	Family Communication (SCORE-15- FO)	Life Satisfaction (SWLS)
Brief DSI-R	-.009	.017	.014	-.059	.499*
ER	-.012	.001	.017	-.056	.438*
IP	-.074	-.033	-.058	-.116	.441*
EC	.086	.099	.089	.053	.323*

* $p < .001$

Note. ER – Emotional Reactivity; IP – I-Position; EC – Emotional Cut-Off

4.7. Differences in the Brief DSI-R as a function of sexual orientation

An independent-samples t-test was conducted to inspect differences in the Brief DSI-R as a function of sexual orientation. As can be seen in Table 9, there were significant differences between heterosexual, and sexual minority participants both in the Brief DSI-R total scale, and in its three subscales, all with a low effect size (Cohen, 1988), with heterosexual

individuals reporting higher levels of differentiation of self than their non-heterosexual peers.

Table 9

Means and t-test statistics for Brief DSI-R

Variable	Heterosexual individuals (<i>n</i> = 125)	Sexual minority individuals (<i>n</i> = 128)	<i>t</i>	df	<i>p</i>	<i>d</i>
Brief DSI-R	4.07	3.59	-4.40	251	<.001	-.083
Emotional Reactivity	3.47	3.07	-2.95	251	.003	-.036
I-Position	4.58	3.96	-4.93	251	<.001	-.107
Emotional Cut-Off	4.57	4.13	-3.19	251	.002	-.042

V. Discussion

The present study analyzed the psychometric properties of the Portuguese version of the Brief DSI-R in a sample of heterosexual and sexual minority young adults. The obtained results revealed that the Brief DSI-R presents acceptable indicators of validity and reliability in the used sample.

With regard to construct validity, a different factorial structure was obtained than the one from Sloan and Van Dierendock (2016), with some items loading in different subscales. In the present study, considering the results of the EFA, it was decided to eliminate the FO subscale, thus resulting in an instrument with three subscales instead of four. The elimination of this subscale was due to the fact that after our analyses, this subscale comprised only two items, and presented an unacceptable Cronbach's alpha. Consequently, the present Portuguese version of the Brief DSI-R differs in the number of items from the version of Sloan and Van Dierendock (2016). The total scale derived from the present study consists of 13 items instead of 20 items, the ER subscale has 6 items, the IP subscale has 4 items, and the EC subscale has 3 items, whereas in the study of Sloan and Van Dierendock (2016) each subscale has 5 items.

In the construct validation study of the DSI-R by Jankowski and Hooper (2012), the FO subscale was also removed. The authors in their study

also found a trifactor structure, and the elimination of the FO subscale was due to the fact that the four-factor, first-order structure of the DSI-R did not fit the data, with the FO subscale proving to be the weakest. In this regard, Jankowski and Hooper (2012), pointed to the fact that using the DSI/DSI-R with samples of emerging adults and adolescents represents an expansion of the construct of differentiation of self, since the original instrument was created with a sample of adults over 25 years old. Also, the authors refer to several validation, and adaptation studies of the DSI/DSI-R instrument, with emerging adults and adolescents that found the same problem with the FO subscale (Jankowski & Hooper, 2012). Furthermore, the FO subscale has always presented itself as more fragile and problematic, hence the need in 2003 for Skowron and Schmitt to revise the original scale (DSI) with the objective of strengthening the reliability, and construct-related validity of this particular subscale. In a validation study of the DSI-R in Spain, Rodríguez-González et al. (2015), also decided to remove the FO and IP subscales. The authors further noted that validation studies of the DSI-R conducted in different countries have revealed that the FO and IP subscales tend to show less cross-cultural stability (Rodríguez-González et al., 2015). In addition, the authors of the Brief DSI-R noted that the FO subscale was the only one in which the items were related to more than one factor (Sloan & Van Dierendonck, 2016), which also explains why in our study some items from this subscale loaded in other subscales. As Rodríguez-González et al. (2015) suggested, the cultural context in which families are embedded is important for the expression of dimensions of differentiation of self. Well-differentiated young adults in Spanish society, similar to Portugal, are likely to be more involved with their parents and family, and hold their opinions and input in high regard, thus differing from what is typically observed in the USA culture (Rodríguez-González et al., 2015). In fact, in Southern European countries, familistic cultural values prevail. These values include cooperation, cohesion, and intergenerational support. This way, a familistic culture acts as a centripetal force pulling family members together across the generations (Hofstede, 2011; Leal et al., 2019). This leads us to believe that the different way the fusion with the family is perceived in our country may lead to a different interpretation, and functioning of this subscale. It may even be

beneficial in the future to review, and culturally adapt the FO subscale to the Portuguese population.

In terms of reliability of the present version of Brief DSI-R, the three factor structure obtained in the AFE showed an improvement in the subscales IP and EC, compared to the values obtained when we tested the original instrument. In the CFA we tested two models, a first-order and a second-order model, with the structure obtained from the EFA, and neither fit the data. After testing additional models we arrived at a final second-order model, which presented a good fit of the modified Brief DSI-R structure to the sample under study. In relation to the values of CR and AVE, the subscales revealed some weaknesses (Marôco, 2010). However, the good result of the Stratified Alpha demonstrated a good level of reliability for the full instrument (Marôco & Garcia-Marques, 2006). In terms of the reliability of the subscales of the Brief DSI-R, for the ER subscale the value was considered acceptable, for the IP it was classified as undesirable, and for the EC it was considered unacceptable. These results demonstrate that the instrument is valid as a whole, but that it would not be advisable to use its subscales separately.

In the analysis of the convergent validity of the new structure of the Brief DSI-R with the SCORE-15-FO (Rocha, 2018), and the SWLS (Neto et al., 1990), we concluded that the Brief DSI-R, and its respective subscales did not correlate with the SCORE-15-FO total scale, nor with its three dimensions. This contradicts the recent study developed in Spain by Dolz-del-Castellar and Oliver (2021) that showed that there is a positive relationship between family functioning and differentiation of self. This difference might be related to the fact that in Dolz-del-Castellar and Oliver's study (2021), they used the Differentiation of Self Scale (Oliver & Berástegui, 2019), and the Family Adaptability and Cohesion Evaluation Scale II (Martínez-Pampliega et al., 2006). So, in addition to using different instruments, the fact that in this present study the Brief DSI-R for Portugal has only 13 items, with some items that are more directed to romantic relationships than to family relationships, may explain why the Brief DSI-R did not correlate with the SCORE-15-FO.

Regarding life satisfaction, our results showed that the greater the differentiation of self, the greater the satisfaction with life. In fact, individuals with a greater differentiation of self have greater flexibility, and manage their

emotions in a more positive way when faced with stressful situations (Lampis et al., 2020; Murdock & Gore Jr., 2004; Rodríguez-González et al., 2019).

Finally, regarding the differences in differentiation of self as a function of sexual orientation, the results of this study show that heterosexual young Portuguese adults exhibit greater differentiation of self than sexual minority Portuguese young adults. These results may be related to the fact that sexual minority young adults might need to conceal, and/or avoid the expression of their sexual orientation in order not to compromise family balance (Leonardo, 2000). This need to conceal, and/or avoid a part of oneself and one's life, may explain the greater difficulty in assuming the I-Position on the part of sexual minorities. Considering that the coming out is often a period marked by family refusal and conflict (Toledo & Filho, 2013), the distance of sexual minority individuals from their families, due to the family non-acceptance, and their self-discovery, can result in increased challenges, not only for the family, but also for the individual, his own development, and identity affirmation (Kusnetzoff, 1991). These issues may be related to the fact that in our study, sexual minorities revealed a greater tendency to react with a greater emotional charge to stress and conflict. They may also resort more frequently to emotional cut-offs when faced with family conflicts, especially when the family itself has difficulty accepting a non-heterosexual identity. Furthermore, additional stressors related to the individual's perception of the self as a stigmatized, and devalued minority must be considered (Meyer, 2003). Since they involve self-perceptions and appraisals, these minority stress processes are more proximal to the individual, including, expectations of rejection, concealment, and internalized homophobia (Meyer, 2003). This leads us to believe that these additional stressors that sexual minority individuals are confronted with, may compromise their development of their differentiation of self.

The results obtained in this study support the use of the Brief DSI-R with heterosexual, and sexual minority young Portuguese adults. The validation of this instrument is fundamental not only for clinical and therapeutic use, but also to be used in future studies that aim to assess de differentiation of self within sexual minorities.

5.1. Strengths, limitations, and suggestions for future studies

There are positive contributions of the present study that are worth mentioning. First, the validation of the Brief DSI-R in a different country from the one where it originated adds to the instrument cross-cultural validity. Second, this study corroborates some concerns regarding the FO subscale, and its validity within a Southern European, and familistic country such as Portugal. Finally, the validation of the Brief DSI-R using a subsample of sexual minority young adults counteracts the prevailing heteronormativity of psychological, and more specifically, psychometric research.

Despite its contributions, the study inevitably has some limitations. First, we resorted to a convenience sample collected online. Therefore, our participants had a high educational level, and most of them were students, which imposes limits on generalizability of results. In the future, a more diverse sample should thus be collected. Second, the differences obtained between heterosexual, and sexual minority individuals with regard to differentiation of self, may be due to differences in other characteristics that were not investigated (e.g., age and gender). This should be considered and explored in future research. Third, the analysis of the temporal stability of the Brief DSI-R should be conducted in future investigations to understand whether the results differ depending on the different moments of the application (Souza et al., 2017). Considering the scarcity of studies on the differentiation of self among sexual minority people, it would also be advantageous to conduct a study with more diverse sexual minority in terms of plurisexual versus monosexual identities.

VI. Conclusion

The present study aimed to contribute to the research of the differentiation of self in heterosexual and sexual minority young adults, by exploring the psychometric properties of the Portuguese version of the Brief DSI-R instrument, with regard to its reliability and validity. In this study we found a trifactorial structure for the Portuguese Brief DSI-R that showed convergent validity with satisfaction with life. Also, heterosexual young adults reported greater differentiation of self than their sexual minority peers. Overall, results obtained in this study allow us to affirm that the Portuguese

version of the Brief DSI-R is a reliable, and valid instrument to use with young adults with different sexual orientations.

References

- Arnett, J. J. (2000). Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*, 55(5), 469-480. <https://doi.org/10.1037/0003-066x.55.5.469>
- Bastos, R. A. (2020). *(in)Satisfação com a identidade em pessoas LGB e variáveis familiares: A importância da abertura à família* [Dissertação de Mestrado]. <https://estudogeral.sib.uc.pt/handle/10316/94445>
- Bowen, M. (1972). On the differentiation of self. In J. L. Framo (Ed.), *Family interaction: A dialog between family researchers and family therapists* (pp. 111–173). New York: Springer Publishing Company.
- Bowen, M. (1978). *Family therapy in clinical practice*. New York: Jason Aronson.
- Bulhões, R. S. (2013). *Contribuições à análise de outliers em modelos de equações estruturais* [Dissertação de mestrado]. Universidade de São Paulo.
- Byrne, B. M. (2013). *Structural equation modeling with AMOS: Basic concepts, applications, and programming* (2nd ed.). Routledge.
- Cepukiene, V. (2020). Adults' psychosocial functioning through the lens of Bowen theory: The role of interparental relationship quality, attachment to parents, differentiation of self, and satisfaction with couple relationship. *Journal of Adult Development*. <https://doi.org/10.1007/s10804-020-09351-3>
- Chung, H., & Gale, J. (2008). Family functioning and self-differentiation: A cross-cultural examination. *Contemporary Family Therapy*, 31(1), 19-33. <https://doi.org/10.1007/s10591-008-9080-4>

- Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.
- DeVellis, R. F. (2017). *Scale development: Theory and applications* (4rd ed.). Newbury Park, CA: Sage.
- Diener, E., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personal Assess*, 49(1), 71-75.
- Dolz-del-Castellar, B., & Oliver, J. (2021). Relationship between family functioning, differentiation of self and anxiety in Spanish young adults. *PLOS ONE*, 16(3). <https://doi.org/10.1371/journal.pone.0246875>
- Drake, J. R., Murdock, N. L., Marszalek, J. M., & Barber, C. E. (2015). Differentiation of self inventory—Short form: Development and preliminary validation. *Contemporary Family Therapy*, 37(2), 101-112. <https://doi.org/10.1007/s10591-015-9329-7>
- Gjersing, L., Caplehorn, J. R. M., & Clausen, T. (2010). Cross-cultural adaptation of research instruments: Language, setting, time and statistical considerations. *BMC Medical Research Methodology*. <https://doi.org/10.1186/1471-2288-10-13>
- Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, 2(1), 3–25. <https://doi.org/10.9707/2307-0919.1014>
- Jankowski, P. J., & Hooper, L. M. (2012). Differentiation of self: A validation study of the Bowen theory construct. *Couple and Family Psychology: Research and Practice*, 1(3), 226-243. <https://doi.org/10.1037/a0027469>
- Kusnetzoff, J. C. (1991). Crisis en la familia por explicitación de la homosexualidad de uno de sus integrantes: formas de presentación, informaciones, contención psicológica. *Perspectivas sistémicas*, 16.

- Lampis, J., Cataudella, S., Speziale, R., & Elat, S. (2020). The Role of Differentiation of Self Dimensions in the Anxiety Problems. *Family Journal*, 28(1), 90–97. <https://doi.org/10.1177/1066480719894943>
- LaSala, M. C. (2000). Lesbians, gay men, and their parents: family therapy for the coming-out crisis. *Family Process*, 39(1), 67–81. doi.org/10.1111/j.1545-5300.2000.39108.x
- Leal, D., Gato, J., & Tasker, F. (2019). Prospective parenting: sexual identity and intercultural trajectories. *Culture, Health & Sexuality*, 21(7), 757–773. <https://doi.org/10.1080/13691058.2018.1515987>
- Leonardo, A. R. (2020). *Funcionamento Familiar, Diferenciação do Self e Satisfação com a vida: Estudo exploratório com pessoas LGB e Heterossexuais* [Dissertação de Mestrado]. <https://estudogeral.uc.pt/handle/10316/94578>
- Major, S., Miranda, C., Rodríguez-González, M., & Relvas, A. P. (2014). Adaptação portuguesa do Differentiation of Self Inventory-Revised (DSI-R): Um estudo exploratório. *RIDEP*, 1(37), 99-123. <http://hdl.handle.net/10316/81453>
- Marôco, J., & Garcia-Marques, T. (2006). Qual a fiabilidade do alfa de Cronbach? Questões antigas e soluções modernas? *Laboratório de Psicologia*, 4(1). <https://doi.org/10.14417/lp.763>
- Marôco, J. (2010). *Análise de Equações Estruturais: Fundamentos teóricos, Software & Aplicações*. ReportNumber, Lda.
- Martínez-Pampliega, A., Iraurgi, I., Galíndez, E., & Sanz, M. (2006). Family Adaptability and Cohesion Evaluation Scale (FACES): Desarrollo de una versión de 20 ítems en español. *International Journal of Clinical*

- and Health Psychology*, 6(2), 317-338.
http://www.aepc.es/ijchp/articulos_pdf/ijchp-180.pdf
- Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, 129(5), 674-697. <https://doi.org/10.1037/0033-2909.129.5.674>
- Monteiro, S., Tavares, J. & Pereira, A. (2009). Adulthood emergent: on the border between adolescence and adulthood. *Revista @mbienteeducação*, 2(1), 129-137.
- Murdock, N. L., & Gore Jr., P. A. (2004). Stress, Coping, and Differentiation of Self: A Test of Bowen Theory. *Contemporary Family Therapy: An International Journal*, 26(3), 319–335. <https://doi.org/10.1023/B:COFT.0000037918.53929.18>
- Neto, F., Barros, J., & Barros, A. (1990). Satisfação com a vida. In L. Almeida, R. Santiago, P. Silva, L. Oliveira, O. Caetano & J. Marques (Eds.) *A acção educativa: Análise psicossocial*, 91-100. Leiria: ESEL./APPORT.
- Oliver, J. & Berástegui, A. (2019). La Escala de Diferenciación del Self (EDS): desarrollo y validación inicial. *Mosaico*, 72, 100-119. https://www.researchgate.net/publication/333652590_La_Escala_de_Diferenciacion_del_Self_EDS_desarrollo_y_validacion_inicial_Mosaico_72_100-119_Differentiation_of_Self_Scale_development_and_initial_validation
- Pallant, J. (2005). *SPSS survival manual: A step by step guide to data analysis using SPSS for Windows (Version 12)*. Allen & Unwin.

- Peleg, O., & Messerschmidt-Grandi, C. (2019). Differentiation of self and trait anxiety: A cross-cultural perspective. *International Journal of Psychology: Journal International de Psychologie*, 54(6), 816–827. <https://doi.org/10.1002/ijop.12535>
- Rindfuss, R. R. (1991). The young adult years: Diversity, structural change, and fertility. *Demography*, 28(4), 493. <https://doi.org/10.2307/2061419>
- Rocha, P. M. (2018). *Estudos de validação do Systemic Clinical Outcome Routine Evaluation: Family of Origin (SCORE-15-FO) numa Amostra de Adultos Portugueses* [Dissertação de Mestrado]. <https://eg.uc.pt/handle/10316/85607?mode=full>
- Rodríguez-González, M., Skowron, E. A., & Jódar Anchía, R. (2015). Spanish adaptation of the differentiation of self inventory-revised (DSI-R). *Terapia psicológica*, 33(1), 47-58. <https://doi.org/10.4067/s0718-48082015000100005>
- Rodríguez-González, M., Schweer-Collins, M., Skowron, E. A., Jódar, R., Cagigal, V., & Major, S. O. (2019). Stressful Life Events and Physical and Psychological Health: Mediating Effects of Differentiation of Self in a Spanish Sample. *Journal of Marital and Family Therapy*, 45(4), 578–591. <https://doi.org/10.1111/jmft.12358>
- Rodríguez-González, M., Lampis, J., Murdock, N. L., Schweer-Collins, M. L., & Lyons, E. R. (2020). Couple Adjustment and Differentiation of Self in the United States, Italy, and Spain: A Cross-Cultural Study. *Family Process*. <https://doi.org/10.1111/famp.12522>
- Rosario, M., & Schrimshaw, E. W. (2013). The sexual identity development and health of lesbian, gay, and bisexual adolescents: An ecological perspective. In C. J. Patterson & A. R. D'Augelli (Eds.), *Handbook of*

- psychology and sexual orientation* (pp. 87–101). Oxford University Press.
- Skowron, E. A., & Friedlander, M. L. (1998). The differentiation of self inventory: Development and initial validation. *Journal of Counseling Psychology, 45*(3), 235-246. <https://doi.org/10.1037/0022-0167.45.3.235>
- Skowron, E. A., & Schmitt, T. A. (2003). Assessing interpersonal fusion: Reliability and validity of a new dsi fusion with others subscale. *Journal of Marital and Family Therapy, 29*(2), 209-222. <https://doi.org/10.1111/j.1752-0606.2003.tb01201.x>
- Sloan, D., & Van Dierendonck, D. (2016). Item selection and validation of a brief, 20-item version of the differentiation of self inventory - Revised. *Personality and Individual Differences, 97*, 146-150. <https://doi.org/10.1016/j.paid.2016.03.037>
- Souza, A. C., Alexandre, N. M. C., & Guirardellho, E. B. (2017). Psychometric properties in instruments evaluation of reliability and validity. *Epidemiol. Serv. Saúde, 26*(3), 1-10.
- Spencer, B., & Brown, J. (2007). Fusion or internalized homophobia? A pilot study of Bowen's differentiation of self hypothesis with lesbian couples. *Family Process, 46*(2), 257-268.
- Toledo, L. G. & Filho, F. S. T. (2013). Homofobia familiar: abrindo o armário 'entre quatro paredes'. *Arquivos Brasileiros de Psicologia, 65*(3), 376-391.
http://pepsic.bvsalud.org/scielo.php?script=sci_arttext&pid=S1809-52672013000300005&lng=pt&tlng=pt

Vilaça, M., Silva J. T., & Relvas, A. P. (2014). Systemic Clinical Outcome Routine Evaluation (SCORE-15). In A. P. Relvas e S. Major (Coord.), *Instrumentos de Avaliação Familiar – Funcionamento e Intervenção*.