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THE CONTRIBUTION OF SELF-COMPASSION TO OPTIMAL SELF-ESTEEM

Master's Thesis

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Running head: Optimal self-esteem and self-compassion

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LÜHIKOKKUVÕTE

Enesesõbralikkuse panus optimaalsesse enesehinnangusse

Käesoleva magistritöö peamine eesmärk oli analüüsida enesehinnangu ja enesesõbralikkuse vahelisi seoseid ning saada teada, kas enesesõbralikkus suurendab optimaalset enesehinnangut. Optimaalne enesehinnang operatsionaliseeriti antud uurimuse kontekstis kui eksplitsiitse ja implitsiitse enesehinnangu kongruentsus. Interneti kaudu läbi viidud uuringus osales 147 katseisikut. Eksplitsiitse enesehinnangu mõõtmiseks kasutati Rosenbergi Enesehinnangu Skaalat (RSES) ning eksplitsiitse enesesõbralikkuse mõõtmiseks kasutati Enesesõbralikkuse Skaalat (SCS). Implitsiitse enesehinnangu ning implitsiitse enesesõbralikkuse mõõtmiseks töötati välja kaks implitsiitset mõõdikut: enesehinnangu IAT ning enesesõbralikkuse IAT. Eksplitsiitse ja implitsiitse enesehinnangu kongruentsuse ennustamiseks kasutati regressioonanalüüsi. Tulemustest selgus, et kõrge eksplitsiitne enesesõbralikkus ennustab suuremat kongruentsust eksplitsiitse ja implitsiitse enesehinnangu vahel. Samuti ennustas suuremat kongruentsust eksplitsiitse ja implitsiitse enesehinnangu vahel ka kõrge enesetõhusus. Implitsiitne enesesõbralikkus statistiliselt olulist mõju ei avaldanud. Seega saab järeldada, et enesesõbralikkusel on eraldiseisev panus optimaalsesse enesehinnangusse, mida ei saa seletada enesetõhususe mõjuga, sest nii eksplitsiitne enesesõbralikkus kui enesetõhusus ennustasid iseseisvalt kõrgemat kongruentsust implitsiitse ja eksplitsiitse enesehinnangu vahel.

Märksõnad: optimaalne enesehinnang, enesesõbralikkus, eksplitsiitne enesehinnang, implitsiitne enesehinnang, IAT

ABSTRACT**The contribution of self-compassion to optimal self-esteem**

The aim of the research was to analyse the relationship between self-esteem and self-compassion and to find out whether self-compassion increases optimal self-esteem. For the purposes of this study, optimal self-esteem was operationalized as the congruence between explicit and implicit self-esteem. 147 participants were recruited to a computer-based online study. Explicit self-esteem was measured with Rosenberg Self-Esteem Scale (RSES) and explicit self-compassion was measured with Self-Compassion Scale (SCS). Self-esteem IAT and self-compassion IAT were developed to measure implicit self-esteem and implicit self-compassion. Regression analysis was performed to analyze which components and to what extent contribute to the congruence of explicit and implicit self-esteem. It was found that explicit self-compassion predicted greater congruence between explicit and implicit self-esteem, implicit self-compassion did not have a significant effect. Also high self-efficacy predicted greater congruence between explicit and implicit self-esteem. It can be concluded, that self-compassion has a separate role in optimal self-esteem that cannot be described by the role of self-efficacy, as both self-compassion and self-efficacy independently predicted greater congruence between explicit and implicit self-esteem.

Keywords: optimal self-esteem, self-compassion, implicit self-esteem, explicit self-esteem, IAT.

INTRODUCTION

The aim of the current research is to analyse the relationship between self-esteem and self-compassion and to find out whether self-compassion increases optimal self-esteem. High self-esteem can characterize people who frankly accept their good qualities along with individuals who are narcissistic, defensive, and conceited (Baumeister et al., 2003). Currently, it is unclear what differentiates healthy and unhealthy sense of global self-esteem (Neff, 2011). This study tests the proposal that one possible mechanism behind optimal, healthy self-esteem is high level of self-compassion. Self-compassion (Neff, 2003) is a stable foundation of positive self-regard and psychological well-being, which is not based on self-evaluation, comparisons with others or on congruence with ideal standards (Neff, 2003 a,b). Neff (2011) also argues that self-compassion is related to ‘optimal’ (Kernis, 2003a) or ‘true’ self-esteem (Deci & Ryan, 1995). For the purposes of this study, optimal self-esteem is operationalized as the congruence of explicit and implicit self-esteem. Lack of such congruence has been associated with distinct psychological disadvantages such as narcissism, vulnerability to criticism, greater levels of self-doubt, anger suppression and impaired physical and psychological health (see, for example: Koole et al., 2009; Schröder-Abé et al., 2007b; Zeigler-Hill, 2006; Briñol, Petty, & Wheeler, 2006). In this study implicit and explicit measures of self-esteem are used in order to measure the congruence of those two and to investigate to what extent it is related to implicit and explicit levels of self-compassion, while controlling for self-efficacy.

Self-esteem

Traditionally, self-esteem has been defined as a relatively stable, enduring cognitive judgment people hold on their personal value (Rosenberg, 1965) or global evaluations of self-worth (Baumeister, 1993; Harter, 2006). High self-esteem has long been associated with various positive mental health outcomes such as happiness (Baumeister et al., 2003), positive self-view, optimism, successful coping and positive emotions (Baumeister et al., 2003; Brown, 1986). Low self-esteem, on the other hand, has been related to negative self-view, depression, fearfulness, shyness, and loneliness (Baumeister et al., 2003; Brown, 1986). On the assumption that high self-esteem will cause many positive outcomes, considerable effort has been put into boosting self-esteem of various groups but so far in majority of cases such efforts tend to fail (Baumeister et al., 2003). As a result, the belief that high self-esteem is unequivocally desirable is no longer universally accepted (Neff, 2011).

Neff (2011) argues that as self-esteem can be unstable, fluctuating according to our latest success or failure and that it is largely the outcome of doing well, not the cause of doing well. Furthermore, aiming at achieving high self-esteem can have various negative outcomes. The desire to have high self-esteem has been associated with self-enhancement bias (Sedikides & Gregg, 2008) and ‘better-than average effect’ (Alicke & Govorun, 2005). Many people with high self-esteem exaggerate their successes and good traits. They claim to be more likable and attractive, to have better relationships, and to make better impressions on others than people with low self-esteem, but objective measures disconfirm most of these beliefs (Baumeister et al., 2003). Social comparison is an important aspect of self-esteem. Over 100 years ago Charles Horton Cooley proposed that feelings of self-worth stem from the ‘looking glass self’ – our perceptions of how we appear in the eyes of others (Cooley, 1902). It has been found that self-esteem is often impacted more powerfully by the opinions of acquaintances than close others (Harter, 1999), making the concept of self-esteem superficial. Self-esteem has been criticized for having vague and ill-formed foundations (Neff, 2011). The need to feel superior in order to feel good about oneself means that the pursuit of high self-esteem may involve puffing the self up while putting others down (Neff, 2011).

Kernis (2003a,b) has proposed a term ‘optimal self-esteem’, which is characterized by qualities associated with genuine, true, stable, and congruent (with implicit self-esteem) high self-esteem, whereas ‘fragile self-esteem’ is defensive, contingent, unstable and discrepant with implicit feelings of self-worth. Similarly, Deci and Ryan (1995) differentiate between ‘contingent self-esteem’ and ‘true self-esteem’. They argue that the nature of self-regard in case of those two types of self-esteems is quite different, although both can indicate a high score on a self-esteem scale. Contingent self-esteem refers to feelings about oneself that depend on matching some standard of excellence, living up to certain high expectations and often involves social comparison and achieving externally imposed criteria to feel worthy (Deci & Ryan, 1995). True self-esteem refers only to those regulatory processes that are either intrinsic or have been integrated with one’s intrinsic or core self and it is enhanced only when one’s actions are self-determined, when one acts with an internal perceived locus of causality (Deci & Ryan, 1995). True self-esteem does not fluctuate as a function of various accomplishments. It is more stable and is based in a solid sense of self, where one’s worth is an integrated aspect of one’s self (Deci & Ryan, 1995).

All in all, many authors see high self-esteem as a heterogeneous category, encompassing people who frankly accept their good qualities along with narcissistic, defensive, and conceited individuals (Baumeister et al., 2003). They see self-esteem as a broad category, based on various underlying mechanisms, dominated either by competition and success or self-compassionate attitude. It remains unclear, however, why certain individuals possess a sense of global self-esteem that is healthy versus egoistic (Neff, 2011). This study tests the hypothesis that one mechanism behind optimal, healthy self-esteem is the level of self-compassion, a construct proposed by Neff (2003a,b). According to Neff (2011) self-compassion may be a more healthy way of relating to oneself than the construct of self-esteem based on competition and success, because it provides a stable foundation of positive self-regard. Possibly, self-compassion may be a key source of the 'optimal' self-esteem (Kernis, 2003a) or 'true' self-esteem (Deci & Ryan, 1995). While sense of self-worth that is based on competition depends on external circumstances, sense of self-worth associated with self-compassion is less likely to fluctuate according to external circumstances (Neff, 2011).

Self-compassion and its associations with self-esteem

Self-compassion (Neff, 2003a,b) can be seen as another way to feel good about ourselves and increase our psychological well-being. Whereas success- and comparison-based self-esteem entails evaluating oneself positively and often involves the need to be special and above average, self-compassion does not entail self-evaluation or comparisons with others (Neff, 2011) and is not based on congruence with ideal standards (Neff, 2003a). Self-compassion is understood as a connected and clear-sighted way of relating to ourselves even in instances of failure, perceived inadequacy, and imperfection (Neff, 2011), without engaging in suppression or exaggeration of these feelings (Neff, Kirkpatrick, & Rude, 2007). Self-compassion transforms negative self-affect such as feeling bad about one's inadequacies or failures into positive self-affect such as kindness and understanding toward oneself (Neff, 2003 a). According to Neff (2003 a,b) self-compassion entails three main components which overlap and mutually interact: self-kindness versus self-judgment, feelings of common humanity versus isolation, and mindfulness versus over-identification. Self-kindness refers to the tendency to be caring and understanding with ourselves rather than harshly critical or judgmental. Common humanity involves seeing imperfection as part of the shared human condition, recognizing that all people

fail, make mistakes, and feel inadequate in some way. Mindfulness involves being aware of present moment experience in a clear and balanced manner so that one neither ignores nor ruminates on disliked aspects of oneself or one's life. Mindfulness includes taking a meta-perspective on one's own experience so that it can be considered with greater objectivity and perspective (Neff, 2011).

Growing body of research has demonstrated that self-compassion is strongly associated with psychological health (See, for example: Neff, 2009; Leary et al., 2007; Shapiro, Brown, & Biegel, 2007, MacBeth & Gumley, 2012) and self-compassion predicts positive mental health indicators even when controlling for global self-esteem (Neff, 2003a). Research shows that self-compassion can act as a buffer against negative emotions involving unfavorable self-evaluation, as self-compassionate people are able to take an accepting and open stance to undesirable aspects of self and tend to acknowledge their personal role in negative events (Leary et al., 2007). Self-compassion has been found to increase motivation to improve personal weaknesses and the belief that shortcomings can be changed (Breines & Chen, 2012) and has been linked with greater personal initiative to make needed changes in one's life (Neff, Rude & Kirkpatrick, 2007), adopting mastery goals in academic settings. Self-compassionate individuals are intrinsically motivated by curiosity, the desire to develop skills, and to master new material (Neff, Hsieh & Dejithirat, 2005; Neff, 2011). It has been found that self-compassionate people are willing to receive both positive and neutral feedback and attribute the feedback to their personalities in either way (Leary et al., 2011) and that self-compassion helps people accept negative self-relevant emotions with emotional equanimity (Neff, 2011). At the same time, self-esteem which is based on successful competition is related to defensive behavior, inability to accept non-positive feedback (Leary et al., 2007), possibly as it does not provide emotional resilience when a person is faced with difficulties (Neff, 2011). Arguably self-compassion deactivates the threat system associated with feelings of insecurity, defensiveness, and the limbic system and activates the self-soothing system associated with feelings of secure attachment, safeness, and the oxytocin-opiate system (Gilbert and Irons, 2005). On the other hand, self-esteem represents an evaluation of superiority and inferiority that helps to establish social rank stability and is related to alerting, energizing impulses and dopamine activation (See, for example: Gilbert et al., 2008; Longe et al., 2009; Rockcliff et al., 2008;).

A bulk of research shows that self-compassion and self-esteem are inter-correlated, ranging from 0.57–0.59 using the Rosenberg (1965) measure (Leary et al., 2007; Neff, 2003a; Neff, Pisitsungkagarn & Hsieh, 2008). This is so, because high self-compassion and high self-esteem both represent positive self-attitudes (Neff, 2011). As people low in self-compassion are likely to be critical and have lowered feelings of self-worth and people high in self-compassion are likely to have heightened feelings of self-worth and self-esteem because they are kinder and more accepting of themselves, this relationship makes sense (Neff, 2011).

Thus, based on previous research it can be assumed that self-esteem is a broad category with several underlying mechanisms. Nature of self-regard is different in case of self-esteem based on comparison and success and in case of self-esteem based on self-compassion, although both may indicate a high total score on a self-esteem scale. As previous research indicates, self-compassion might be the mechanism behind healthy, optimal self-esteem and various benefits related to it.

Congruence of implicit and explicit self-esteem

Self-esteem operates on both explicit and implicit level. It is important to measure both implicit and explicit self-esteem, as whereas implicit and explicit self-esteem go hand in hand for some individuals, many individuals display large discrepancies between the two types of self-esteem. Such discrepancies have been associated with distinct psychological disadvantages (Koole et al. 2009), such as narcissism and vulnerability to criticism in case of individuals with high explicit self-esteem and low implicit self-esteem (See, for example: Schröder-Abé et al., 2007b; Zeigler-Hill, 2006), maladaptive forms of perfectionism in case of individuals with low explicit self-esteem and high implicit self-esteem (Zeigler-Hill & Terry, 2007), greater levels of self-doubt (Briñol, Petty, & Wheeler, 2006), anger suppression (Schröder-Abé, Rudolph & Schütz, 2007), and impaired physical and psychological health (Schröder-Abé et al., 2007b) in case of all discrepant combinations of self-esteem.

Psychologists have mostly focused on explicit self-esteem (Rosenberg, 1965) measured by self-report questionnaires. Explicit self-esteem is considered to be based on beliefs about the self that a person consciously considers to be valid (Koole et al, 2009). Self-report measures allow the respondent to straightforwardly determine the response content and traditionally a vast majority of measures of concepts such as self-esteem and self-concept have been based on introspection, on the premise that

people are able to make rational decisions and give trustworthy answers (Nosek, Greenwald & Banaji, 2007). However, the assumption of rationality has been convincingly challenged (see, for example Kahneman, Slovik and Tversky, 1982; Wegner, 2002) and it has been found that the value of introspectively derived explicit measurement may be narrow (Nosek, Hawkins, & Frazier, 2011; see also Nosek, Greenwald & Banaji, 2007; Greenwald & Banaji, 1995). As self-report measures can be rather easily manipulated, the interpretation of self-report measures is potentially complex because they can intermix both valid indication of self-concept and self-presentational and other distortions (Greenwald & Farnham, 2000). Due to those reasons, self-reports of self-esteem, though tolerably valid, still contain systematic error (Rudolph et al., 2008). Implicit Association Test (IAT, Greenwald et al., 1998) provides one possible alternative to self-report measures. Implicit methods decrease the mental control available to produce the response; reduce the role of conscious intention; and reduce the role of self-reflective, deliberative processes (Nosek, Greenwald & Banaji, 2007). The IAT's difficulty to fake (Banse, Seise, & Zerbes, 2001) or deliberately control is a reported advantage versus self-reports (Rowatt et al., 2006; Nosek, Greenwald & Banaji, 2007). It can be argued that compared to explicit measures, a measure based on intuitive associations towards the self allows a researcher to get closer to the 'core' of the person, referring to the 'core concept model' of Bluemke & Friese (2012). At the same time, implicit measures that use response latency as a dependent variable are sensitive to average speed of responding and other extraneous influences such as cognitive fluency or procedural factors that are less likely to affect explicit measures (Nosek, Greenwald & Banaji, 2007, Nosek Hawkins & Frazier, 2011). Therefore it cannot be concluded that implicit measures are superior to explicit ones, both of them have their own advantages and disadvantages.

Implicit self-esteem can be defined as the association of the concept of self with a valence attribute, as explained in a 'unified theory' of Greenwald et al (2002). Greenwald and Banaji (1995) proposed the term 'implicit social cognition' to describe cognitive processes that occur outside conscious awareness or conscious control. Implicit self-esteem is assumed to derive from intuitive associations that the person has towards the self, regardless of whether he or she considers these associations to be valid (Koole & DeHart, 2007; Pelham, Carvallo, & Jones, 2005; see also Gawronski & Bodenhausen, 2006). Self-concept involves association of the concept of self with

different representations of self (Greenwald et al, 2002), which also includes implicit self-esteem. Besides the associative processes, self-concept also consists of propositional component, including explicit self-esteem. Whereas associative processes, including the ones connected to implicit self-esteem, are characterized by mere activation independent of subjective truth or falsity, propositional reasoning related to explicit self-esteem is concerned with the validation of evaluations and beliefs concerning oneself (Gawronski & Bodenhausen, 2006).

In order to understand the processes of self-esteem, to get a ‘full picture’ of it, it is considered useful to measure self-esteem in ways that can distinguish the self’s implicit and explicit operations (Greenwald & Farnham, 2000). This allows analyzing both propositional reasoning and associative processes. It is possible that traditional concepts such as self-concept and self-esteem could be rethought based on what implicit measures reveal (Nosek, Greenwald & Banaji, 2007). In this study, explicit and implicit measures of self-esteem were combined, in order to analyze their discrepancy or congruence as the marker of optimal self-esteem. The main aim of the current research was to find out whether self-compassion increases the congruence of implicit and explicit self-esteem. In order to achieve this, it was also important to understand whether self-compassion contributes into optimal self-esteem via implicit or explicit mechanisms, which necessitated using both implicit and explicit measures.

The implicit association test

Self-esteem and self-compassion IATs were developed to measure implicit self-esteem and implicit self-compassion. Stemming from the ideas of Bluemke and Friese (2012) two IAT measures were developed: self-esteem IAT and self-compassion IAT. The IAT provides a measure of strengths of automatic associations between stimuli that represent distinct target groups and evaluative attributes or trait terms (Greenwald & Farnham, 2000; Nosek, Greenwald & Banaji, 2007). The IAT usually consists of four categories defined by category labels and stimulus items that serve as exemplars for those categories. In most IAT designs, the four categories represent two contrasted pairs, distinguished as target concepts (e.g., men–women) and attribute (e.g., good–bad) dimensions. The two dimensions usually define the two nominal features that are of direct interest and create the contrasting identification tasks (Greenwald, Nosek, Banaji, & Klauer, 2005). The IAT task requires sorting of stimulus exemplars from four concepts using two response options, each of which is assigned to two of the four concepts (Nosek, Greenwald & Banaji, 2007). The logic of

the IAT is that this sorting task should be easier (i.e., faster and more accurate) when the two concepts that share the same response key are strongly associated than when they are weakly associated (Nosek, Greenwald & Banaji, 2007; Teige-Mociemba, Klauer & Rothermund, 2008.) In essence, the faster a person correctly sorts words into a combined category, the stronger the implicit association between the person and attribute (Rowatt et al., 2006). In case of self-esteem, individuals with high implicit self-esteem more quickly associate positive than negative qualities with the self (Greenwald & Farnham, 2000). The performance difference between two kinds of mappings is referred to as the IAT effect (Greenwald et al., 1998). The IAT effect is a comparative measure reflecting the combined association strengths of two associative pairs, e.g. self with good, others with bad, contrasted with strengths of two other associative pairs, e.g. self with bad, others with good (Greenwald, Nosek, Banaji, & Klauer, 2005). The size and direction of IAT effect reflect the relative association strengths between target and attribute categories (Teige-Mociemba, Klauer & Rothermund, 2008).

In current study the IATs were developed to measure three IAT effects: 1) implicit self-esteem; 2) self-compassion, showing how friendly/critical attitude a person has towards own success/failure); 3) IAT other-compassion (showing how friendly/critical attitude a person has towards other peoples' success/failure). The attribute dimension of friendly/critical was chosen for the self-compassion IAT based on the idea that kindness, friendliness, and nonjudgmental attitude towards oneself is an important component of self-compassion according to Neff (2003a,b). The category dimension of success/failure was chosen as a feature of the self that is expected to be processed very differently under comparison-based and compassion-based self-regard. Comparison-based self-regard should extend friendliness towards success and be critical of failures, leading to strong associations between success-friendly and failure-critical. By contrast, compassion-based self-regard should extend friendliness also to failures, thereby weakening these associations and leading to reduced IAT effect. Finally, the distinction between self-compassion and other-compassion was introduced to further analyze if self-compassion relates to reduced criticism of failures in self or in self as well as others.

Self-efficacy

The concept of self-efficacy is also included in the research, as this could be a potential factor increasing the congruence of explicit and implicit self-esteem. Thus, it

is important to clarify, whether self-compassion has an independent role in explaining the congruence or not. General self-efficacy pertains to the subjective confidence of being able to master stressful demands by means of adaptive action (Rimm & Jerusalem, 1999; Bandura, 1997). Perceived self-efficacy is not stable and may significantly vary across situations and times depending on individual's talents, but also challenges and opportunities (Caprara et al., 2013). It has been proposed that promotion of self-efficacy beliefs may contribute to the motivation and efforts needed to attain desired goals and consequent recognitions and rewards that can promote one's self-esteem (Bandura, 1997; Caprara, Alessandri & Barbaranelli, 2010).

Research questions and hypotheses

The first and main research question in the current study is whether self-compassion increases optimal self-esteem. Optimal self-esteem was operationalized as the congruence of explicit and implicit self-esteem. In order to be able to measure the congruence, in addition to self-report measures of self-esteem and self-compassion, IAT paradigm (Greenwald et al., 1998) was used to measure implicit self-esteem. While analyzing whether self-compassion contributes into optimal self-esteem, it is also important to understand whether self-compassion contributes into optimal self-esteem via implicit or explicit mechanisms, which is the second research question. To answer this question, in addition to explicit measure of self-compassion (Self-compassion scale (SCS), Neff 2003a) self-compassion IAT was developed to measure implicit self-compassion. It was hypothesized that self-comparison predicts greater congruence between explicit and implicit self-esteem

Secondly, for the purposes of this study, it was important to find out, whether the presumed relationship between self-compassion and optimal self-esteem is separate from previously reported associations of self-efficacy and self-esteem. It was hypothesized that self-compassion and self-efficacy are independently contributing to the congruence between explicit and implicit self-esteem.

METHOD

Participants

A sample of 147 participants was recruited through the mailing lists of Tartu University, a science news portal ERR Novaator, Facebook and word of mouth to participate in a computer-based online study. The sample was heterogeneous. 114 of participants were female and 33 were male. Age of participants ranged from 19 to 62

(M=32.6). Education levels ranged from basic education (N=1) to trade school (N=13), high school (N=34), bachelor's degree (N=34), master's degree (N=58) and PhD (N=6). Twenty books of "Mindfulness: Finding peace in a frantic world", by Mark Williams and Danny Penman, were raffled off to participants who opted to be included in the lottery after the questionnaire completion.

The Implicit Association Tests (IAT)

There were two IAT tasks in the study: self-esteem IAT and self-compassion IAT. The IAT score in self-esteem IAT reflects the participant's implicit self-esteem and. IAT scores in self-compassion IAT reflect how friendly attitude the participant has towards his/her own success/failure and towards other people's success/failure. Higher scores indicate strong associations between success-friendly and failure-critical, whereas lower scores indicate that friendly attitude is extended not only to success, but to failure.

Self-esteem IAT was applied as a three-block procedure and self-compassion IAT as a five-block procedure. Altogether there were 280 trials. Completion of IAT tasks required approximately 15 minutes. In all blocks a stimulus was displayed 750 ms after the fixation cross. Each stimulus was displayed until the correct response was given. The next stimulus item followed at 1000 ms inter-trial interval.

The order of measures, and IAT blocks within IAT tasks remained constant across the participants. The order of IAT stimuli in the blocks was randomized. The reason for this design was that we were primarily interested in the relationships between self-esteem, self-compassion, other-compassion and self-report measures, not mean IAT effects. It was assumed that the biases induced by order effects would influence all participants in the same way.

In the beginning a brief introductive text about implicit association tests was provided. The participants were informed about the approximate duration of two IAT tasks (15 minutes, 8 blocks), instructed to find suitable environment for focusing and advised to carefully read instructions preceding each block. In all blocks the participants were instructed to reply as quickly as possible and to make as few mistakes as possible. In case of an error (marked by a cross on the screen) the participants were instructed to give a correct response as quickly as possible by pressing the correct key. Firstly the participants performed the self-esteem IAT, followed by self-compassion IAT.

Self Esteem-IAT

Self-esteem IAT was applied as a three-block procedure (train target, train attribute and combined measuring block) with 20 trials for both practice blocks and 60 trials for data collection block. In the first block (train target) the participants were practicing a target concept discrimination by categorizing items into categories “Me” (*Mina*) or “Others” (*Teised*). There were 20 trials (5 trials for every stimulus type: “Me” on upper side of the screen, “Me” on lower side of the screen”; “Others” on upper side of the screen; “Others” on lower side of the screen). Participants were instructed to use their left hand to press “E” on the keyboard when the word belonged into category “Me” and to press “I” using their right hand when the word belonged into category “Others”. The category labels were presented at either end of the divider line as seen on Figure 1. For target stimuli, it did not matter whether the word appeared on upper or lower half of the screen.

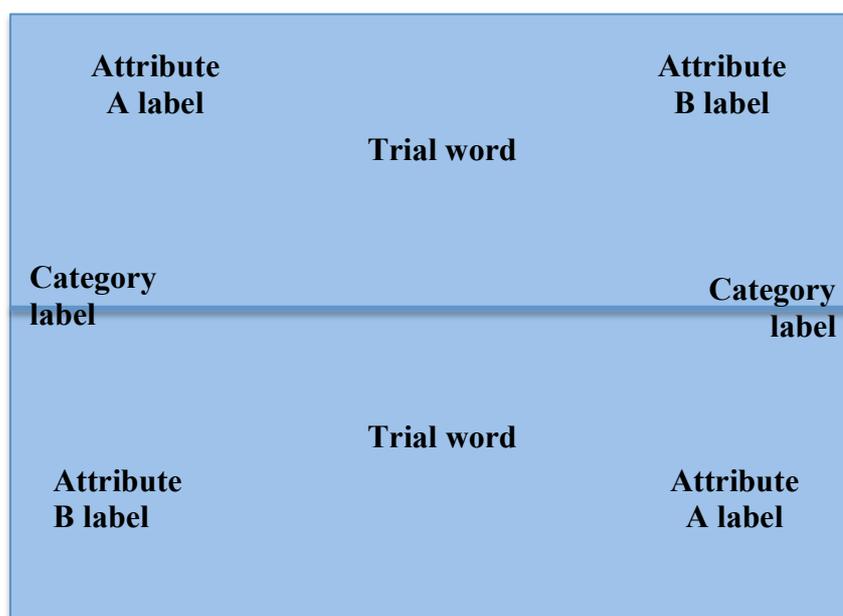


Figure 1. Layout of category and attribute labels and trial words on the screen

In the second block (train attribute) the participants were practicing attribute-discrimination (valence) by categorizing items into categories “Positive” (*Positiivne*) and “Negative” (*Negatiivne*). There were 20 trials, 5 for every stimulus type. The correct response depended on the location of the word. When the word appeared on the upper half of the screen the participants had to press “E” in case of a positive word and “I” in case of a negative word. When the word appeared on the lower half of the

screen, the instruction was opposite. The attribute category labels were presented in the upper and lower areas of the screen.

In the third block (measurement block) the participants categorized items interchangeably either based on the target or the attribute category. There were 60 trials, out of which 40 were attribute trials and 20 were target trials. The attribute-stimuli were presented twice as often as target-stimuli as IAT effects were calculated only based on attribute stimuli and target stimuli were used only to keep associations related to them active. Stimulus words were written either in green (target) or blue (attribute) color to make it easier for participants to differentiate between previously learned rules they had to use for responding. In case of words written in green color (“Me vs “Others” stimuli) the participants had to press “E” when the word represented category “Me” and “I” when the word represented category “Others”. It did not matter whether the word appeared on upper or lower half of the screen. In case of words written in blue color (“Positive” vs “Negative” stimuli) when the word appeared on the upper half of the screen, the participants were instructed to press “E” when the word represented category “Positive” and “I” when the word represented category “Negative”. When the word appeared on the lower half of the screen, the instruction was opposite. In the end of the self-esteem IAT the participants were provided with feedback about their implicit self-esteem.

Self-compassion IAT

Self-compassion IAT was applied as a five-block procedure with 20 trials for three practice blocks and 60 trials for two data collection blocks.

In the first block (train target: self) the participants practiced target concept discrimination by categorizing items into categories “Friendly” (*Söbralik*) and “Critical” (*Kriitiline*). There were 20 trials (5 trials for every stimulus type: “Friendly” on upper side of the screen, “Friendly” on lower side of the screen”; “Critical” on upper side of the screen; “Critical” on lower side of the screen). Instructions to the participants followed the same logic as in the first block of self-esteem IAT.

In the second block (train attribute: self) the participants practiced attribute discrimination by categorizing items into categories “My success” (*Minu õnnestumine*) and “My failure” (*Minu ebaõnnestumine*). There were 20 trials, 5 for every stimulus type. Instructions to the participants followed the same logic as in the second block of self-esteem IAT.

In the third block (measurement: self) participants categorized items into two combined categories, practiced in previous blocks: “Friendly” vs “Critical” and “My success” vs “My failure”. There were 60 trials, out of which 40 were attribute trials and 20 were target trials. Instructions to the participants followed the same logic as in the third block of self-esteem IAT.

In the fourth block (train attribute: other) the participants practiced attribute discrimination by categorizing items into categories “His/her success” (*Tema õnnestumine*) and “His/her failure” (*Tema ebaõnnestumine*). The participants were instructed to imagine how specified events happen to someone else, otherwise the instructions were the same as in second block of self-compassion IAT.

In the fifth block (measurement: other) the participants categorized items into two combined categories, practiced in previous blocks: “Friendly” vs “Critical” and “His/her success” vs “His/her failure”. There were 60 trials, out of which 40 were attribute trials and 20 were target trials. Instructions to the participants followed the same logic as in the third block of self-compassion IAT. It was assumed that when the person is not very self-compassionate, the score in fifth block is higher than in the third block.

In the end of self-compassion IAT the participants were provided with feedback about their implicit compassion for themselves and others and thanked for participation.

IAT stimuli

1. Target stimuli for self-esteem IAT. To generate target stimuli for category “Me” we used ideographic target stimuli as it has been reported that stimulus centrality is an important factor in category representations in implicit measures and that ideographic stimuli are more central than generic target stimuli (Bluemke & Friese, 2012). Stimulus centrality helps a participant focus on the concept in question during a measurement procedure and the mental representation will be centered more strictly on the core self (Bluemke & Friese, 2012). Ideographic target stimuli were collected for each participant: first name, last name, birthday and school and location they most identified with. These ideographic data entered by participants were not used in later analysis; the block was entered for training purposes only. To generate target stimuli for category “other” a selection of names, dates, schools and locations were provided by the stimulus program and the participants had to choose items they least identified with and which also remained neutral for them.

2. Attribute stimuli for self-esteem IAT. Valence words, choice of which was based on the work of Vainik (2012) were used as attribute stimuli. Criteria for selection of valence words were unanimity of four experts evaluating the valence, including only nouns and adjectives, omitting compound words; being among 3000 most frequent Estonian words, equal number of letters and syllables and same type of word in one category; omitting words used in other IAT. There were 10 words with positive valence: good (*hea*), beautiful (*ilus*), victory (*võit*), enjoyable (*mõnus*), the best (*parim*), friend (*sõber*), favorite (*lemmik*), pleasant (*meeldiv*), dream (*unistus*) and freedom (*vabadus*) and 10 words with negative valence: bad (*paha*), ugly (*kole*), poison (*mürk*), painful (*valus*), worse (*halvem*), thief (*varas*), fraud (*pettus*), terrible (*kohutav*), loss (*kaotus*), complaint (*kaebus*).

3. Target stimuli for self-compassion IAT. There were 5 words belonging under the category “friendly”: supportive (*toetav*), approving (*heakskiitev*); benevolent (*heatahtlik*), forgiving (*andestav*), understanding (*mõistev*) and 5 words belonging under the category “critical”: condemning (*hukkamõistev*), malicious (*pahatahtlik*), accusing (*süüdistav*), deprecative (*tauniv*), punishing (*karistav*).

4. Attribute stimuli for self-compassion IAT. Two types of attribute stimuli were used: pertaining to “Self” and pertaining to “Others”, there were 5 words reflecting the category “success” and 5 words capturing “failure” in both blocks. Attribute stimuli pertaining to self were: my promotion (*minu edutamine*), my bonus (*minu preemia*), my profit (*minu kasum*), my achievement (*minu saavutus*), my victory (*minu võit*) and my dismissal (*minu vallandamine*), my fine (*minu trahv*), my loss (*minu kahjum*), my incapability (*minu saamatus*), my defeat (*minu kaotus*). Attribute stimuli pertaining to “Other” were: other’s promotion (*tema edutamine*), other’s bonus (*tema preemia*), other’s profit (*tema kasum*), other’s achievement (*tema saavutus*), other’s victory (*tema võit*) and other’s dismissal (*tema vallandamine*), other’s fine (*tema trahv*), other’s loss (*tema kahjum*), other’s incapability (*tema saamatus*) and other’s defeat (*tema kaotus*).

Self-compassion IAT was created to measure the relationship between “friendliness” and “success”. The valence axis used in self-esteem IAT was omitted, however it must be acknowledged that ends of both of the axes (“friendly vs critical” and “success vs failure”) do differ regarding their valence.

IAT scores were calculated based on combined blocks only. Each means used for calculating IAT effects computed from up to 10 trials. IAT effects were computed

as D2 scores as described in Greenwald, Nosek & Banaji (2003). In both IATs when an error occurred the participants were required to make a correct categorization response before the next stimulus word would appear. The improved IAT scoring algorithm was used to compute the D2 score with built-in error penalties, meaning that when a participant made a mistake, reaction times until giving the correct response were analyzed. Reaction times slower than 10 000ms and faster than 400ms were eliminated. Works of Zinkernagel et al. (2011) and Greenwald, Nosek & Banaji (2003) were taken as an example for creating self-compassion and self-esteem IATs.

Self-report measures

Each participant was asked to complete the following self-report measures of self-esteem, self-efficacy and self-compassion.

The Self-Compassion Scale (SCS)

The Self-Compassion Scale (SCS; Neff, 2003a) adapted into Estonian by Talpsep (2015) is comprised of 26 items, assessing the positive and negative aspects of the six components of self-compassion: Self-Kindness, Self-Judgment, Common Humanity, Isolation, Mindfulness and Over-Identification. The statements were coded on a 5-point Likert scale ranging from 1 (almost never) to 5 (almost always). Regarding the factor structure validation of the Estonian version of SCS I relied on the analysis of Talpsep (2015), where hierarchical model with a higher order variable and six latent variables was tested and approved, replicating the results of Neff (2003a).

Rosenberg Self-Esteem Scale (RSES)

Rosenberg Self-Esteem Scale RSES (Rosenberg, 1965) adapted into Estonian by Pullmann & Allik, (2000) was used to assess explicit self-esteem. RSES is comprised of 10 items and contains 5 positively (e.g., people feeling satisfied with life) and 5 negatively (e.g., people feeling they are failures) worded items. RSES assesses a person's overall evaluation of his or her worthiness as a human being (Rosenberg, 1979). Responses were coded on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree).

Self-efficacy scale

Schwarzer and Jerusalem Scale of General Self-Efficacy (Schwarzer & Jerusalem, 1995), adapted into Estonian by Rimm & Jerusalem (1999) was used to assess self-efficacy. Jerusalem Scale of General Self-Efficacy is a ten-item scale,

which been proven reliable and valid in various studies (Rimm & Jerusalem 1999).

Procedure

Questionnaire Completion

Initial study description was provided to participants either online or electronically via email, outlining the procedure and goals for the data collection. Upon deciding to enroll in the study, more detailed information was provided on the University of Tartu research website (kaemus.psych.ut.ee). Firstly the participants filled out the questionnaires, which they did online at their leisure with an option to quit anytime. Aside from demographic information, no questions could be left unanswered. Upon completion, the participants received immediate questionnaire feedback for the self-compassion scale (based on US norms). After filling out the questionnaires, all participants were asked to complete two IATs, one designed to assess self-compassion and another to assess self-esteem.

Analysis

SPSS, version 18.0 was used to run descriptive statistics, to test underlying assumptions about the samples, and perform correlation and regression analyses. For interpretation of the strength of the associations between subscales, $r = 0-0.19$ was considered very weak, $0.2-0.39$ as weak, $0.40-0.59$ as moderate, $0.6-0.79$ as strong and $0.8-1$ as very strong correlation. The data were checked for normality of distribution and outliers using box plots. Spearman-Brown corrected split-half correlation and Cronbach's alphas were used to measure the internal consistency of all IATs. In order to calculate split-halves, the attribute trials that were used for IAT effect calculation from self-compassion IAT, other-compassion IAT and self-esteem IAT were divided into two groups. The goal was to make both groups of each IAT maximally comparable, so odd and even trials of each different type were distributed to different groups. After such grouping, IAT effects were calculated and used for reliability analysis. Similar method has been previously employed in several studies dealing with reliability of IAT measure (See, for example: Rudolph et al., 2008).

RESULTS

As a first step, reliability analysis was conducted to measure the internal consistency of all IATs and it was revealed that Spearman-Brown coefficient for self-esteem IAT was 0.41 and Cronbach's alpha was also 0.41. Spearman-Brown coefficient for other-compassion IAT was 0.30 and Cronbach's alpha was also 0.30.

Spearman-Brown coefficient for self-compassion IAT was 0.29 and Cronbach's alpha was also 0.29.

Next, in order to analyze the preconditions of regression analysis for answering three research questions, firstly correlation analysis was performed to analyze the relationship between main variables. The results of the correlation analysis can be seen in Table 1. It was revealed that measures of implicit and explicit self-compassion were not significantly correlated; however explicit self-compassion and self-efficacy were moderately correlated ($r=0.46$, $p=0.000$). Despite the moderate correlation, both variables were included in the regression analysis, due to a big proportion of unique variety they have, which deserves analyzing.

Table 1. Correlations of main dependent and independent variables

<i>Variables</i>	<i>Explicit SC</i>	<i>Implicit SE</i>	<i>Implicit OC</i>	<i>Implicit SC</i>	<i>SC-OC substract.</i>	<i>Self-efficacy</i>	<i>Explicit SE</i>	<i>Explicit Congr.</i>
<i>Explicit SC</i>	1							
<i>Implicit SE</i>	.131	1						
<i>Implicit OC</i>	-.040	.219**	1					
<i>Implicit SC</i>	-.109	.192*	.332**	1				
<i>SC-OC substract.</i>	-.051	-.046	-.649**	.502**	1			
<i>Self-efficacy</i>	.464**	.173*	.021	-.063	-.070	1		
<i>Explicit SE</i>	.787**	.163	-.092	-.071	.027	.549**	1	
<i>Congr.</i>	-.277**	-.146	-.075	.065	.121	-.313**	-.307**	1

N=142 in all cases except for explicit self compassion (N=140)

** . Correlation is significant .at 01 level (2-tailed). * . Correlation is significant at 0.05 level (2-tailed). SC: self compassion; SE: self-esteem, congr.: congruence; substract.: subtraction.

Next, regression analysis was performed to analyze which components and to what extent contribute to the congruence of explicit and implicit self-esteem. Explicit self-compassion (aggregate score of SCS); implicit other-compassion, implicit self-compassion and explicit self-efficacy were entered as predictors. Both dependent variables and predictors had roughly normal distributions. To get the score of congruence for conducting this analysis, firstly scores of implicit self-esteem were subtracted from the scores of explicit self-esteem. For the purposes of this study it was important to measure the extent of congruence, not the direction of non-

congruence meaning that it was not important whether the value was negative or positive. Therefore, in order to measure congruence between explicit and implicit self-esteem we transferred the relevant data into absolute values.

The value of R Square (0.127) indicated that the model describes roughly 13% of the variance of congruence; therefore the descriptive power of the model is low. However, the model was significant ($F=4.93$, $p=0.001$). Results of the regression for predicting the congruence of explicit and implicit self-esteem are presented in Table 2. While reading the results, it must be emphasized that when the score of congruence is high in absolute numbers, it indicates low congruence between explicit and implicit self-esteem. It was revealed from the regression analysis that high self-efficacy predicts more congruence between explicit and implicit self-esteem ($\text{Beta} = -0.23$, $p=0.015$) and that also high explicit self-compassion predicts more congruence between explicit and implicit self-esteem ($\text{Beta} = -0.17$, $p=0.065$).

Table 2. Regression model for predicting the congruence of explicit and implicit self-esteem

<i>Predictor</i>	β	p
<i>Explicit self-compassion</i>	- 0.17	0.015
<i>Self-efficacy</i>	- 0.23	0.065
<i>Implicit self-compassion</i>	0.07	0.448
<i>Implicit other-compassion</i>	- 0.09	0.274

As an answer to the first and second research question it was found out that self-compassion does increase optimal self-esteem and that self-compassion contributes into optimal self-esteem via explicit mechanisms. As an answer to the third research question it was found out that self-compassion and self-efficacy are independently contributing to the congruence between explicit and implicit self-esteem.

Initially I conducted the regression analysis with the measure derived by subtracting implicit other-compassion from implicit self-compassion. It was revealed from the correlation analysis that implicit self-compassion and implicit other compassion have a weak, but significant correlation ($r=0.33$, $p<0.001$). As the correlation low, it can be assumed that they do not measure the same construct and the difference of self-compassion and other-compassion is interpretable. Implicit

other-compassion was subtracted from self-compassion. I assumed that this allows me to isolate the results from the effect of ‘success’ and ‘failure’ and measure ‘core compassion’ only. The relationship between ‘friendliness/criticism’ and ‘success/failure’ is the same in case of both IAT effects: self-compassion and other-compassion and influences both of them. When there is a difference in the scores of self-compassion and other-compassion, this should indicate that in one case the difference has to do with attitudes towards the ‘self’ and in another case with the attitudes towards ‘other’. Subtracting one from another should leave us with ‘core compassion’. However such ‘core compassion’ is difficult to interpret and I could not be sure that I was able to measure ‘core compassion’. For example, it is possible that while the participants performed the tasks in self-compassion and other-compassion IAT blocks, they did not pay enough attention on the distinction between ‘self’ and ‘other’ and performed similarly in both blocks. As can be seen from Table 1 the subtraction of other-compassion and self-compassion did not have significant correlation with any of the explicit measures nor implicit self-esteem. Therefore I decided to use raw self-compassion and other-compassion IAT scores following the logic that in the regression model, while taking one of them under control, shared variance is removed and the effect belongs to the other predictor.

DISCUSSION

The aim of the current research was to analyse the relationship between self-esteem and self-compassion and to find out whether self-compassion increases optimal self-esteem. For the purposes of this study, optimal self-esteem was operationalized as the congruence of explicit and implicit self-esteem. In order to understand whether self-compassion contributes into optimal self-esteem via implicit or explicit mechanisms, in addition to explicit measure (SCS, Neff 2003a) also self-compassion IAT was developed to measure implicit self-compassion. As it was important to find out, whether the presumed relationship between self-compassion and optimal self-esteem is separate from previously reported associations of self-efficacy and self-esteem, also self-efficacy was included as a predictor of congruence.

Firstly, it was hypothesized that self-compassion predicts greater congruence between explicit and implicit self-esteem. It was revealed from the regression analysis that high explicit self-compassion really does predict greater congruence between explicit and implicit self-esteem (Beta= -.164, $p=.065$), albeit on a more lenient

significance level. Implicit self-compassion, however, did not have a significant contribution. On one hand, this might indicate that explicit mechanisms underlying self-compassion are more important contributors than implicit mechanisms.

Nevertheless, it is also possible that the self-compassion IAT developed for the purposes of this study was not capable of measuring implicit mechanisms reliably.

It was revealed, that self-compassion IAT, other-compassion IAT and self-esteem IAT did not have satisfactory inner consistency. Achieving substantial internal consistency and test–retest reliability is a persistent challenge for implicit measures (Nosek, Greenwald & Banaji, 2007). There is very little research available using implicit measures of self-compassion, but regarding self-esteem it has been concluded that overall, measures of implicit self-esteem have a reputation for unreliability (Bosson, Swann & Pennebaker, 2000). Low reliability of self-esteem IAT is problematic for many reasons, as it could obscure latent correlations, and falsely suggest that explicit self-esteem and implicit self-esteem diverge when they do not, or suggest that different indices of implicit self-esteem fail to converge when they do (Rudolph et al., 2008). Low reliability of self-compassion IATs is problematic for similar reasons. Thus, low reliability must be taken into account while interpreting the results of current research, which should be seen as indicators of trend and studied further, in order to make more substantial conclusions. There are several possible reasons for lack of inner consistency, such as relatively small amount of trials used to calculate IAT effects. Also, the study was conducted via the Internet, which means that some participants might not have been careful enough to read the instructions and also could not ask for the help in case of misunderstandings. It is also possible that self-compassion is more complex as initially thought and the concept is hard to grasp with the logic of IAT. As such IAT was conducted for the first time, it is also possible that the choice of category items and stimuli words needs further development in order to better reflect the underlying processes of self-compassion.

The second hypothesis of the current research was that self-compassion and self-efficacy are independently contributing into the congruence between explicit and implicit self-esteem. This hypotheses found confirmation, as both explicit self-compassion (Beta= -0.17, $p=.065$) and self-efficacy (Beta= -.225, $p=.015$) independently predicted greater congruence between explicit and implicit self-esteem. Therefore, it can be concluded that self-compassion has a separate role in optimal self-esteem that cannot be described by the role of self-efficacy.

Results showing that self-compassion has an important role in the optimal or healthy self-esteem are also supported by previous research. Mindfulness, one important component of self-compassion according to Neff (2011) has been shown to reduce the discrepancy between explicit and implicit self-esteem (Brown & Ryan, 2003). Also meditation, which has been demonstrated to increase self-compassion (Neff & Germer, 2013) has been reported to increase congruence between explicit and implicit self-esteem (Koole et al., 2009). Furthermore, it has been found that self-compassion moderates the influence of self-esteem on mental health, as low self-esteem predicts significant drops in mental health only amongst those low in self-compassion, but amongst those high in self-compassion, low self-esteem has shown little effect on mental health (Marshall et al, 2015). Therefore, it can be argued that the “healthiness” of self-esteem depends on self-compassion. It is not entirely clear, however, what might be the underlying mechanisms, but some promising ideas can be discussed.

One of the reasons behind the discrepancy of implicit and explicit self-esteem may be low capacity for self-awareness, which is related to low awareness of implicit processes and associations (Brown & Ryan, 2003; Carlson, 2013). Mindfulness, a key facet of self-compassion (Neff, 2011), is associated with heightened self-knowledge, a central element of self-regulation. Congruence of explicit and implicit self-esteem in case of highly mindful people suggests that they may be more attuned to their implicit emotions, aware of and receptive to inner experiences and reflect that awareness in their explicit self-descriptions (Brown & Ryan, 2003). It has been reported, that mindfulness helps to increase self-knowledge by addressing informational barriers, i.e., the quantity and quality of information people have about themselves and motivational barriers, i.e., ego-protective motives that affect how people process information about themselves (Carlson, 2013). Similar mechanisms have been described in case of meditation, which presumably allows people to bring their explicitly endorsed self-views in line with their more intuitively based implicit associations about the self and encourages people to rely more on intuitive feelings of self-worth (Koole et al, 2009). Therefore, it is possible that self-compassionate people have more congruent, optimal self-esteem, as they have better awareness of their inner experiences, which is also reflected in their explicit self-descriptions.

The contribution of current paper is both practical and theoretical. The main result that self-compassion increases optimal self-esteem is an important new

knowledge. Also, for the purposes of this study, self-compassion IAT was developed, which has made a unique contribution to measuring implicit self-compassion. Combining explicit and implicit measures of self-compassion and self-esteem in order to better understand in which ways does self-compassion contribute to self-esteem, has also been a valuable contribution into self-esteem and self-compassion research. Also some practical recommendations can be made on the basis of current study. It can be proposed that in order to achieve numerous benefits traditionally related to self-esteem, instead of boosting comparison- and success-based self-esteem, as has been unsuccessfully tried in several programs, more efforts should be put into boosting self-compassion of various groups. This could potentially result in increasing optimal self-esteem with its various benefits. Self-compassion can be developed in several ways, for example by mindfulness-based interventions and meditation, which have already proven to be effective tools for boosting self-compassion.

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