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RESEARCH

Self-compassion as a Transdiagnostic Construct: A Multilevel Meta-analysis of Associations with Psychopathology at Overall, Dimensional, and Component Levels

Ivana Buric[1] · Marleen J. ter Avest[2] · Petra Helmond[3] · Mark Assink[4] · Milica Nikolic[4] · Ana Pizarro-Carmona[5] · Eline Möller[6] · Esther I. de Bruin[4,7] · Susan M. Bögels[1] · Corina U. Greven[2,8,9] · Maja Wrzesien[10]

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Abstract

Objectives This meta-analysis provided a comprehensive synthesis of research on the relationship between trait self-compassion (SC), operationalised by the Self-Compassion Scale (SCS), and symptoms of psychopathology, including depression, anxiety, PTSD, and eating disorders. Given that SC is a multifaceted construct, we examined it at the overall, dimensional (compassionate and uncompassionate self-responding; CS and UCS), and component levels (mindfulness, self-kindness, common humanity, self-judgement, over-identification and isolation) to identify distinct patterns of association.

Method We analysed 256 studies (1106 effect sizes; $N = 107{,}304$) with a three-level approach to meta-analysis with restricted maximum likelihood estimation.

Results Overall SC showed a strong negative association with psychopathology symptoms ($r = -0.50$). The UCS dimension ($r = 0.49$) was more strongly linked to psychopathology than the CS dimension ($r = -0.31$). The UCS dimension showed the strongest association with depression ($r = 0.53$) and anxiety ($r = 0.49$), followed by eating disorders ($r = 0.44$) and PTSD ($r = 0.26$), while the CS dimension showed its strongest association with depression ($r = -0.35$). At the component level, self-kindness was consistently linked to lower psychopathology across symptom domains, while mindfulness and common humanity had the strongest associations with lower PTSD symptoms. Over-identification and isolation showed stronger links to symptoms in non-clinical and medically vulnerable groups (all $p < 0.05$). Additionally, age, gender, ethnicity, and publication year did not significantly moderate these associations (all $p > 0.05$).

Conclusions Our findings demonstrated the transdiagnostic relevance of SC and emphasise the need to treat it as a multifaceted construct when examining its relationship with psychopathology.

Preregistration This study is not preregistered.

Keywords Self-compassion · Psychopathology · Meta-analysis · Transdiagnostic

Although (self-)compassion practice has been a part of ancient contemplative and spiritual traditions for more than 2500 years (Gilbert et al., 2017; Rahula, 1997), the scientific community became interested in this construct only relatively recently. Over the past two decades, research across disciplines (including medicine, education, and psychology) has empirically demonstrated the benefits of self-compassion as a protective factor for mental health (e.g. Singer & Bolz, 2013). Western definitions of self-compassion refer to cognitive, affective, and behavioural processes directed toward the self in times of suffering (Neff, 2003; Strauss et al., 2016). In contrast to the interpersonal focus characteristic of compassion for/from others (e.g.Cha et al., 2023; Dunne & Manheim, 2023; Khoury, 2019), self-compassion is directed inward and includes recognition of personal suffering, understanding its universality, feeling empathy and emotional resonance, tolerating uncomfortable feelings, and taking action to alleviate one's own suffering (Strauss et al., 2016).

(Self-)compassion is increasingly recognised for its transdiagnostic potential (e.g.Cuppage et al., 2018; Kirby, 2025; Penido & Rocha, 2024). First, higher levels of self-compassion have been consistently associated with lower symptoms

Marleen J. ter Avest and Petra Helmond contributed equally to this work.

Extended author information available on the last page of the article

across multiple forms of psychopathology, including depression, anxiety, and other mental health conditions (e.g. MacBeth & Gumley, 2012; Muris & Petrocchi, 2016), and (self-)compassion interventions can reduce these symptoms (e.g.Ferrari et al., 2019; Kirby et al., 2017). Second, (self-) compassion appears to relate to psychological processes that are themselves considered transdiagnostic vulnerability factors. For example, research suggests that it is associated with and may effectively target processes such as adaptive emotion regulation (Finlay-Jones et al., 2015, 2017; Förster & Kanske, 2022; Inwood & Ferrari, 2018; Paucsik et al., 2023; Prentice et al., 2021; Rodriguez-Moreno et al., 2024), lower rumination (Ferrari et al., 2019; Krieger et al., 2013; Raes, 2010; Smeets et al., 2014; Yamasaki et al., 2024; Vidal & Soldevilla, 2023), and reduced self-criticism (Cuppage et al., 2018; Kirby, 2025; Ferrari et al., 2019; Wakelin et al., 2022; Vidal & Soldevilla, 2023). Additionally, meta-analytic findings indicate a moderate positive association between compassion and heart-rate variability, a widely recognised marker of adaptive physiological regulation (Di Bello et al., 2020). Collectively, these findings point to the role of (self-) compassion in promoting both psychological and physiological resilience across diverse populations.

Although a full review of different conceptualisations of (self-)compassion is beyond the scope of this paper (see, for instance, Khoury, 2019; Kirby, 2025; Strauss et al., 2016; and Quaglia et al., 2021 for extensive reviews), several key theoretical approaches warrant attention. Neff's model (2003) conceptualises self-compassion as involving three main elements on bipolar ends: (1) showing kindness towards oneself rather than being judgemental, (2) recognising that suffering and imperfection are part of the shared human experience rather than feeling isolated from others because of it, and (3) maintaining non-judgemental awareness of unpleasant thoughts and emotions rather than being fully absorbed by one's difficulties. Together, these elements describe self-compassion as a construct reflecting the capacity to acknowledge personal suffering without avoidance and to view pain, inadequacies, and failures as part of the shared human experience (Neff, 2003). However, this is only one of several notable theoretical approaches to (self-)compassion. From an evolutionary perspective, self-compassion and compassion are seen as adaptive social mechanisms that increase cooperation and strengthen resilience. For instance, Goetz and colleagues (2010) suggest that compassion for others combines immediate emotional responses and lasting affective tendencies toward unjust suffering, which results in comforting behaviour. Gilbert's model links compassion to an evolutionarily based caring motivational system based on reciprocal interaction processes (Gilbert, 2010, 2019, 2020) related to three evolved search functions of emotions: (i) the threat detection and response system; (ii) the drive system (seeking resources);, and (iii) the soothing system (content, safeness, peacefulness, and affiliation). Therefore, individuals can develop compassion as the capacity to access, tolerate, and direct affiliative motives and emotions for themselves and others (Gilbert, 2010, 2019, 2020). Another perspective is offered by Khoury (2019) who conceptualises compassion as a regulatory and motivational process integrating affective, cognitive, behavioural, and interpersonal processes that are both embodied (i.e. shaped by biological processes in the body) and embedded (i.e. shaped by social and interpersonal contexts). These processes are embedded in ethical and ecological responsibility and include all sentient beings and the natural environment, as has been recently conceptualised in the Embodied and Embedded Mindfulness and Compassion Framework (Khoury et al., 2025). In the Theravāda Buddhist tradition, compassion (*karuṇā*) is one of the four immeasurables or "divine abodes" (*brahmavihāras*) that form the foundation of Buddhist ethics, alongside loving-kindness (*mettā*), sympathetic joy (*muditā*), and equanimity (*upekkhā*) (Buddhaghosa, 2020). Compassion is cultivated to help transform and alleviate the experience of suffering (*dukkha*) extended to all sentient beings, including oneself (The Dalai Lama, 2001).

It is important to note that the conceptualisation of self-compassion remains an area of active scholarly debate, making it essential for researchers to clarify their epistemological stance to select measurement tools that align with their position, because different theoretical models of self-compassion reflect different epistemological assumptions. For instance, there are distinctions between secular and contemplative conceptualisations of (self-)compassion although both aim to alleviate suffering. Their underlying assumptions are not the same; secular models emphasise the cultivation of psychological skills applicable to everyday functioning, whereas contemplative approaches conceptualise compassion in accordance with their specific tradition. For instance, in the Mahāyāna tradition, compassion arises from insight into the nondual nature of the self, with an emphasis on self-transcendence and altered states of consciousness (Gilbert & Van Gordon, 2023). In Vajrayāna, compassion is viewed as an innate capacity that emerges once the mind is liberated from habitual self-centred patterns (Khoury, 2019). Finally, in the Theravāda tradition, compassion is cultivated through meditation practices related to the four immeasurables (Khoury, 2019). For a review of different Buddhist teachings on compassion, see Makransky (2012). Therefore, from a Buddhist perspective, compassion is viewed as an underlying process regardless of the object (oneself or others; Gu et al., 2017). This stands in contrast to secular models that are centred on the self, for which empirical evidence regarding self–other relationships remains limited and mixed (e.g.Gerber et al., 2015; Lathren et al., 2021; Neff & Pommier, 2013; Welp & Brown, 2014). Recent extensive critical comparisons between Western

conceptualisations of self-compassion and those in the Mahāyāna tradition suggest that compassion is fundamentally directed toward others, making the concept of western self-compassion conceptually problematic and incompatible with the traditional approach (Dunne & Manheim, 2023). Although the boundaries between secular and contemplative practice are often blurred (Brown, 2016), the epistemological stance that researchers adopt along this continuum may influence how compassion is operationalised, interpreted, and integrated into interventions.

One central gap that remains unresolved concerns the operationalisation of trait self-compassion. Throughout the development of the field, reliable and valid questionnaires that operationalised different theoretical perspectives of self-compassion have been developed (Falconer et al., 2015; Gilbert et al., 2017; Gu et al., 2020; Khoury et al., 2023; Neff, 2003). For instance, the Self-Compassion and Self-Criticism Scale (Falconer et al., 2015) situates self-compassion as a "complex cognitive, emotional, motivational, and behavioural responses to the self" (p. 2) that should be considered context sensitive. The Compassionate Engagement and Action Scale (Gilbert et al., 2017) includes both compassion attributes and compassionate actions, based on the compassion-focused-therapy model. The Sussex–Oxford Self-Compassion Scale-Self aligns with Strauss and colleagues' multidimensional definition of compassion (Gu et al., 2017), emphasising component processes rather than a unitary construct. Similarly, the Compassion Questionnaire for Self (Khoury & Vergara, 2025) conceptualises self-compassion as a set of trainable affective, cognitive, behavioural, and interpersonal skills, consistent with neuroscientific models of the cultivation of self-compassion (Dahl et al., 2016). See Medvedev et al. (2025) for an extensive review of assessment tools in the contemplative science field. Each of these questionnaires is grounded in a different, sometimes overlapping, theoretical stance on what self-compassion is and how it operates.

Among many relevant questionnaires, the Self-Compassion Scale (SCS; Neff, 2003) remains the first operationalisation of this construct and it is so far the most commonly used in research (Muris & Otgaar, 2020). Within the SCS, self-compassion is presented as a multifaceted construct composed of six components: self-kindness, common humanity, mindfulness, self-judgement, isolation, and over-identification (Neff, 2003, 2022, 2023). These opposing components are conceptualised together on the continuum ranging between uncompassionate self-responding (UCS dimension: self-judgement, isolation, and over-identification) to compassionate self-responding (CS dimension: self-kindness, common humanity, and mindfulness) (Neff, 2022). As such, the SCS provides three types of scores: (1) an overall self-compassion score; (2) a score for the CS and UCS dimensions; and (3) individual scores for each of the three positive and three negative components.

There is ongoing discussion about whether self-compassion as measured by the SCS is best understood as a single continuum, a two-dimensional construct, or a collection of six semi-independent components (Muris & Otgaar, 2020, 2022; Muris et al., 2016, 2019, 2021; Neff, 2019, 2022, 2023). Muris and colleagues (2016, 2019), Muris and Otgaar (2020, 2022) argue that including negative components (self-judgement, isolation, and over-identification) in the SCS may inflate associations with psychopathology, as these items reflect psychopathological processes rather than self-compassion itself. They suggest that focusing solely on positive items would more accurately capture self-compassion as a protective factor. Conversely, Neff (2019, 2022, 2023) maintains that the negative items are integral to the definition of self-compassion as a bipolar continuum, encompassing both compassionate and uncompassionate self-responses. In line with this discussion, several meta-analyses have synthesised the association between trait self-compassion and psychopathology by employing a multifaceted approach: examining not only the overall self-compassion score, but also its underlying dimensions and/or components. A meta-analysis of 18 studies by Muris and Petrocchi (2016) was the first to separately examine the CS and UCS dimensions of trait self-compassion. They found that the CS dimension was associated with lower levels of psychopathology, suggesting it acts as a protective factor, while the UCS dimension was positively linked to psychopathology, acting as a vulnerability factor. They also found that the dimensions differed not only in direction but also in strength: the UCS dimension was more strongly associated with psychopathology than the CS dimension. The authors argued that these findings showed the limitations of using a single, overall self-compassion score. Subsequent meta-analyses have expanded this research across different populations and contexts. Meta-analyses on adolescents (Marsh et al., 2018) and young people (Muris et al., 2024) replicated previous findings in adult samples, confirming a strong inverse relationship between overall trait self-compassion and psychological distress, anxiety, or depression. Chio et al. (2021) and Lou et al. (2022) further contributed to this literature by conducting larger meta-analyses investigating the relationship of trait self-compassion with psychological distress and depression, respectively. Both found that the UCS dimension was more strongly associated with depression and psychological distress than the CS dimension. They also confirmed that, specifically for depression, the UCS dimension of self-compassion has a stronger association with this disorder than the CS dimension, in line with the findings of Muris and Petrocchi (2016). Therefore, some meta-analytic findings support the idea that CS and UCS dimensions are differentially associated with psychopathology, suggesting that an overall SCS score may obscure

these effects. However, empirical data from self-compassion interventions (Ferrari et al., 2019; Neff, 2022) indicate that all six components change simultaneously following training, supporting Neff's conceptualisation of self-compassion as a movement along a continuum, shifting from UCS toward CS. In sum, some researchers defend SCS as two unipolar continuums, CS and UCS (Muris & Otgar, 2020, 2022; Muris et al., 2016, 2019), firmly recommending to stop using the overall total score of the SCS and to use only the CS subscale as the operationalisation of self-compassion, while others argue that SCS represents a bipolar continuum, ranging from CS to UCS, and assert that the former authors have fallen into the "differential effects fallacy" (Neff, 2022). The debate has recently expanded, with scholars advocating for a shift from purely statistical and nomothetic approaches (which evaluate the structure of self-compassion as a latent construct) to studying self-compassion in an idiographic way, namely as a dynamic system of interacting processes considering three contextual factors (time frame, current circumstances, and individual differences; Ferrari et al., 2022). Although the debate over the SCS is unlikely to reach a consensus, further investigation of the scale's components across different domains of psychopathology could provide additional insights into the nature of their relationships. However, no meta-analysis to date has systematically examined the associations between all six components of the SCS, as well as its two higher-order dimensions (CS and UCS), and distinct domains of psychopathology. MacBeth and Gumley's (2012) and Muris and Petrocchi's (2016) foundational meta-analyses provided important early insights on self-compassion and psychopathology, but were limited by the small number of studies available at the time ($k = 14$ and $k = 18$, respectively). Thus, they were unable to examine differential associations across psychopathology domains or other relevant moderators. More recent and larger-scale meta-analyses have further advanced the field, but key limitations remain. For example, Chio et al. (2021) focused on general psychological distress, while Lou et al. (2022) focused exclusively on depression. Other meta-analyses have restricted their scope to specific populations such as youth (e.g.Marsh et al., 2018; Muris et al., 2024). As a result, it remains unclear whether different components or dimensions of the SCS are differentially associated with various forms of psychopathology, and how these associations vary across demographic or clinical contexts.

The present meta-analysis addresses these gaps using a large and comprehensive meta-analytic dataset that is now available. The first aim was to estimate the overall strength of the association between self-compassion and overall psychopathology symptoms, and to assess whether dimensions (i.e. CS versus UCS) and individual components of self-compassion (i.e. self-kindness vs. self-judgement, mindfulness vs. over-identification, and common humanity vs. isolation) differentially relate to psychopathology symptoms. Based on prior work (e.g.Chio et al., 2021; MacBeth & Gumley, 2012; Muris & Petrocchi, 2016), we hypothesised that (1) higher overall self-compassion (SCS total score) would be negatively associated with overall psychopathology symptoms; (2) the UCS dimension would show stronger positive associations with overall psychopathology symptoms than the negative associations observed for the CS dimension; and (3) among the six components, UCS components (self-judgement, over-identification, and isolation) would demonstrate stronger positive associations with psychopathology symptoms than the negative associations observed for CS components (self-kindness, mindfulness, and common humanity). The second aim was to investigate whether the strength of these associations varies by symptom domains (i.e. anxiety, depression, PTSD, and eating disorders). This moderator was motivated by the fact that earlier meta-analyses were limited by insufficient statistical power and thus could not address this clinically and theoretically relevant question. The third aim was to examine whether additional demographic and study-level variables moderate the relationship between self-compassion and psychopathology symptoms. Age, gender, and sample type (i.e. clinical, non-clinical, and medically vulnerable populations) were identified a priori as moderators based on studies suggesting developmental variation in self-compassion (Bluth & Blanton, 2015), gender differences in self-compassion (Yarnell et al., 2015), and reduced access to self-compassion in clinical populations (Pauley & McPherson, 2010). Two exploratory moderators were added post hoc: ethnicity and publication year (as a proxy for potential historical shifts in effect sizes and research practices). All moderator analyses were conducted without specific directional hypotheses due to limited and mixed evidence in the existing literature.

By examining overall, dimensional, and component-level associations, this meta-analysis evaluated whether the relationship between Neff's conceptualisation of self-compassion and psychopathology generalises across different symptom domains, age groups, genders, ethnicities, and population types. In doing so, the study offered contributions at both conceptual and practical levels. On the conceptual level, it indicated whether trait self-compassion has transdiagnostic relevance. On the practical level, the findings might inform future research on how interventions could be adapted for different populations, potentially contributing to improved clinical outcomes.

Method

Literature Search and Eligibility Criteria

Following the PRISMA guidelines (Page et al., 2021), a systematic search was conducted to identify studies with quantitative data on the association between trait

self-compassion and psychopathology symptoms in clinical, non-clinical, and medically vulnerable populations. The initial search was run in June 2016 and updated in June 2021 using Medline, PsycINFO, and Web of Science databases. The search strategy included keywords related to (1) trait self-compassion and (2) psychopathology symptom domains (i.e. depression, anxiety, PTSD, and eating disorders). To refine the scope and increase the quality of the studies, the search was limited to peer-reviewed articles. Filters were applied wherever possible to limit results to human studies and publications in English. The full search syntax and the flowchart of the selection process are presented in Supplementary Material 1 and Figure S1, respectively. Studies were screened by title and abstract, followed by a full-text review. The screening was conducted by the third and last authors (in the first search phase), and the second, sixth, and last authors (in the second search phase). Any uncertainties regarding eligibility criteria were resolved through discussions between the respective authors.

Studies were included in the meta-analysis if they met the following inclusion criteria: (1) use of a validated measure of trait self-compassion (i.e. Neff's Self-Compassion Scale and its variations (Neff et al., 2021; Raes et al., 2011) and (2) use of a validated self-report questionnaire assessing psychopathology symptoms consistent with DSM-5 criteria (American Psychiatric Association, 2013), specifically depression, anxiety, PTSD, and eating disorders. Studies were excluded if they (1) lacked sufficient data to calculate effect sizes, (2) were published in a language other than English, or (3) used other types of self-compassion measures (e.g. interviews).

Data Extraction, Coding Procedures, and Reliability Assessment

Information was extracted from each eligible study based on a standardised coding system. The extracted data included (1) study characteristics (authors, year and journal of publication, country, impact factor of the journal, and study design); (2) characteristics of participants (sample size, age, gender, ethnicity, and population type); (3) self-compassion information (overall score, CS or UCS dimension scores, and scores on the six individual components); and (4) psychopathology information (instrument name, authors, and scores on measures of psychopathology). General and specific disorder measures were categorised as broader psychopathology symptom domains based on DSM-5 categories (e.g. general measures such as the Eating Disorder Examination Questionnaire (Mond et al., 2004) and more specific measures such as the Binge Eating Scale (Gormally et al., 1982) were both categorised as eating disorders). When eligible studies were longitudinal, only the pre-intervention data were extracted to ensure comparability with the eligible cross-sectional studies. In the initial search, the last author served as the primary coder, and 25% of the included studies (17 out of 68) were randomly selected and double coded by another member of the team. In the search update phase, the sixth author served as the primary coder, and 25% of the studies (47 out of 188) were randomly selected and double coded by two other team members. All coders were part of the research team and trained in the coding protocol. Random selection for double coding was performed using a random number generator applied to the full list of included studies in each search phase. Cross-correlation coefficients were used to calculate reliability for effect sizes and continuous moderators, while kappa coefficients were used for categorical moderators. Results indicated a high level of agreement. Inter-rater reliability for effect sizes was 0.96, and for continuous moderators, the reliability was 0.99. For the categorical moderators, the average reliability was $\kappa = 0.89$ (range 0.71–1.00). Discrepancies between the coders were resolved through discussion. Both coders re-examined the source material together and explained their coding decisions to one another. Consensus was reached in all cases, without the need for third-party adjudication.

To examine the relationships between self-compassion and psychopathology symptoms, we presented all associations using Pearson's product–moment correlation coefficients (r). Before analysing these correlations, we applied Fisher's r-to-z transformation (Borenstein et al., 2009; Lipsey & Wilson, 2001). This transformation helps ensure that the data meet the assumptions of our analysis by making the distribution of correlation coefficients more symmetrical. After performing the analyses, we converted the results back to the original correlation format (r) using a z-to-r transformation, making it easier to interpret the findings. We interpreted the effect sizes based on standardised Cohen's (2013) guidelines: a small effect size ($r = 0.10$), a medium effect size ($r = 0.30$), and a large effect size ($r = 0.50$).

Data Analyses

As our first aim was to investigate how psychopathology symptoms were related to overall self-compassion, the CS and UCS dimensions, and the six individual components, we performed a series of meta-analyses. Eligible studies reported multiple measures of self-compassion and psychopathology symptoms, and thus generated multiple relevant effect sizes per study, which violated the assumption of independence among effect sizes. To account for effect size dependency, we used a three-level approach to meta-analysis with restricted maximum likelihood estimation (Assink & Wibbelink, 2016, 2024). This approach allows for the

inclusion of all relevant effect sizes per study to maximise retained information and statistical power (Assink & Wibbelink, 2016, 2024). In a multilevel meta-analytic framework, effect sizes (level 1) are nested within studies (level 2), allowing variance to be partitioned into within-study and between-study components. This structure explicitly models the non-independence of multiple effect sizes drawn from the same study, which would otherwise violate assumptions of traditional meta-analytic methods. According to Van Den Noortgate and Onghena (2003), the multilevel approach to meta-analysis is generally superior to traditional meta-analytic methods, except in models without moderators, where its results do not differ substantially from those of traditional approaches as there is no additional variability to explain within or between studies. Given our second aim to identify sources of variability in the self-compassion–psychopathology relationship, we selected a multilevel meta-analytic approach.

The "rma.mv" function of the metafor package (Viechtbauer, 2010) in the R environment (version 3.2.0; R Core Team, 2015) was used to synthesise the effect sizes in each meta-analysis. A three-level random-effects model was built to analyse the data, which accounts for three sources of variance: sampling variance for each observed effect size (i.e. sampling variance, level 1), variance between effect sizes within a study (i.e. within-study variance, level 2), and variance between effect sizes across studies (i.e. between-study variance, level 3). In each of the meta-analyses, this model was used to obtain an overall association between compassion and psychopathology symptoms and to conduct moderator analyses. Four moderators were defined a priori: psychopathology symptom domains (i.e. anxiety, depression, PTSD, and eating disorders), age, gender, and sample type (i.e. clinical, non-clinical, and medically vulnerable populations). These moderators were included in all analyses, regardless of heterogeneity. In addition, exploratory moderator analyses were conducted following evidence of significant heterogeneity to examine whether study-level or sample-related variables (specifically, publication year and ethnicity) accounted for additional variance. Moderator analyses were first conducted for the association between overall self-compassion and psychopathology symptoms. All a priori moderators, along with any exploratory moderators identified as significant, were subsequently included in analyses at the dimension (CS and UCS) and component (six subscales) levels. Because moderator tests were limited in number and primarily guided by theoretical rationale, no corrections for multiple comparisons were applied.

For all models, the formula of Cheung (2014) was used to estimate the sampling variance of observed effect sizes (level 1). To assess heterogeneity, we tested whether the within-study variance (level 2) and between-study variance (level 3) were statistically significant using two separate one-tailed log-likelihood-ratio tests. Significant variance at either level indicates evidence of heterogeneity. In case of significant within- or between-study variance, the three-level intercept-only model was extended by adding coded variables (one at a time) to determine whether this heterogeneity can be explained by the moderators. For testing individual regression coefficients in each three-level model and in constructing confidence intervals, the *t*-distribution was used (Knapp & Hartung, 2003).

To directly compare the absolute strength of associations between SCS dimensions and components with psychopathology symptoms, the negative subscales were reversed, which followed the approach of Muris and Petrocchi (2016). This reversal was applied only in the pairwise comparison analyses (see Table S2 in supplementary material), and not in other models. To avoid an overly strong influence of outlying effect sizes on the conclusions, a check for outlying effect sizes was performed by searching for effect sizes with standardised z scores larger than 3.29 or smaller than −3.29 (Tabachnick & Fidell, 2013). No outliers were found. All tests were performed two-tailed, except the log-likelihood ratio tests that were performed one-tailed. The p-values were considered statistically significant when $p < 0.05$. For details on the statistical approach, we refer to Assink and Wibbelink (2016, 2024).

As significant findings have a higher chance of being published than non-significant findings, there is a risk of bias in syntheses of primary research (Song et al., 2010). Potential bias was assessed in each meta-analysis in two ways: (1) three-level Egger's regression tests (Egger et al., 1997), which account for the dependency of multiple effect sizes within studies, and (2) the trim-and-fill procedure (Duval & Tweedie, 2000a, 2000b), applied as a sensitivity analysis to explore possible funnel plot asymmetry.

Results

A total of 256 studies were included across all meta-analyses, from which 1106 effect sizes could be extracted (see Table S1 for more information on study characteristics, and Supplementary Material 2 for the full references of the included studies). Of these, 387 effect sizes examined the association between overall self-compassion and psychopathology symptoms. Further, 58 effect sizes focused on the association between the CS dimension of self-compassion (combining self-kindness, common humanity, and mindfulness) and psychopathology symptoms, while 53 effect sizes examined the association between the UCS dimension (combining self-judgement, isolation, and over-identification) and psychopathology symptoms. Finally, a total of 303 effect sizes pertained to the following self-compassion components: self-kindness (56), common humanity (54),

mindfulness (54), self-judgement (47), isolation (45), and over-identification (47).

All included studies were based on a total of $N = 107{,}304$ participants (32.16% male). The mean age of participants was 33.52 years ($SD = 13.81$), with ages ranging from 12 to 76 years. Sample sizes across studies varied widely, ranging from 21 to 4189 participants. Most studies sampled non-clinical populations without known psychiatric diagnoses ($k = 162$), while other studies focused on clinical populations diagnosed with psychiatric disorders ($k = 25$), as well as medically vulnerable individuals (e.g. those with conditions such as arthritis or cancer, $k = 68$) who may be at heightened risk for psychopathology.

Most of the included studies were conducted in the USA ($k = 85$), followed by Australia ($k = 25$), China ($k = 20$), the UK ($k = 19$), Canada ($k = 18$), Portugal ($k = 18$), and other countries ($k = 71$). The majority of the included studies were cross-sectional ($k = 223$), with a smaller number of longitudinal studies, including intervention trials ($k = 15$) and other longitudinal designs ($k = 18$). The publication year of the included studies ranged from 2003 to 2022, and the average impact factor of the journals was 2.67. All studies used the SCS (Neff, 2003) or its variations to measure self-compassion. The most commonly assessed psychopathologies were depression ($k = 116$), anxiety ($k = 108$), eating disorders ($k = 20$), and PTSD ($k = 12$). The most commonly used measures of psychopathology were the Depression Anxiety Stress Scales (Lovibond & Lovibond, 1995; $k = 54$), the Center for Epidemiologic Studies Depression Scale (Van Dam & Earleywine, 2011; $k = 39$), and the State-Trait Anxiety Inventory (Spielberger et al., 2017; $k = 21$).

The Association Between Self-compassion and Psychopathology Symptoms

The mean association between overall self-compassion and psychopathology symptoms was significant and large in magnitude ($r = -0.50$), indicating that when individuals report higher levels of self-compassion, they report lower levels of symptoms (Table 1). The analysis of self-compassion dimensions and components provided further insights into the association between self-compassion and psychopathology symptoms. When examining the CS and UCS dimensions separately, a medium negative association was found for the CS dimension ($r = -0.31$), whereas a medium-to-large significant and positive association was found for the UCS dimension ($r = 0.49$). This difference was statistically significant, confirming that the UCS dimension is more strongly associated with symptoms than the CS dimension (see Table S2 in supplementary material for pairwise comparisons).

When examining positive components individually, the mean associations were $r = -0.34$ for self-kindness, $r =$

Table 1 Mean associations between self-compassion facets (overall, dimensions, and subscales) and overall psychopathology symptoms

SC facets	*k*	#ES	Mean *z* (SE)	95% CI	*r*	Sig. mean *z* (*p*)	% Var. at L1	L2 var	% Var. at L2	L3 var	% Var. at L3
Overall SC score	220	387	−0.55 (0.01)	−0.57, −0.53	−0.50	< 0.001	9.4	0.01***	48.0	0.02***	42.5
CS dimension	58	102	−0.32 (0.02)	−0.37, −0.28	−0.31	< 0.001	7.0	0.01***	54.0	0.02***	39.0
UCS dimension	53	94	0.54 (0.03)	0.48, 0.59	0.49	< 0.001	5.0	0.01***	67.7	0.03***	27.3
Self-kindness	56	96	−0.35 (0.02)	−0.39, −0.30	−0.34	< 0.001	7.6	0.01***	64.1	0.02***	28.4
Mindfulness	54	93	−0.34 (0.03)	−0.39, −0.29	−0.32	< 0.001	6.5	0.01***	65.9	0.02***	27.6
Common humanity	54	91	−0.25 (0.02)	−0.29, −0.20	−0.24	< 0.001	10.4	0.00***	74.7	0.02***	14.9
Self-judgement	47	81	0.47 (0.02)	0.43, 0.51	0.44	< 0.001	12.2	0.01***	48.3	0.01*	39.5
Over-identification	45	79	0.51 (0.02)	0.47, 0.54	0.47	< 0.001	15.8	0.01***	50.0	0.01**	34.2
Isolation	47	83	0.50 (0.02)	0.46, 0.54	0.46	< 0.001	12.6	0.01***	37.9	0.01*	49.6

SC, self-compassion; *k*, number of studies; *#ES*, number of effect sizes; *Mean z*, mean effect size (Fisher's *z*); *SE*, standard error; *CI*, confidence interval; *Sig*, significance; *% Var*, percentage of variance explained; *L1 variance*, sampling variance; *L2 variance*, variance in effect sizes within studies; *L3 variance*, variance in effect sizes between studies; *r*, mean effect size (correlation)

*$p < 0.050$; **$p < 0.010$; ***$p < 0.001$

−0.32 for mindfulness, and $r = -0.24$ for common humanity, indicating small-to-medium negative and significant associations with psychopathology symptoms. Among the negative subscales, the mean effect sizes were $r = 0.44$ for self-judgement, $r = 0.47$ for over-identification, and $r = 0.46$ for isolation, all indicating medium-to-large and significant positive associations with symptoms. Heterogeneity in effect sizes was observed within studies (level 2) and between studies (level 3) across all mean analyses, as the within-study and between-study components were significant in all models (Table 1). For instance, 48% of the total variance in effect sizes for overall self-compassion occurred within studies, and 42.5% between studies (both $p < 0.001$). Substantial heterogeneity was also observed across the CS and UCS dimensions and component subscales, supporting moderator analyses to explain this effect size variability. For additional comparisons between individual components, see Tables S2 and S3 in supplementary material.

Moderators of the Association Between Self-compassion and Psychopathology Symptoms

Heterogeneity analyses (Table 1) revealed significant within- and between-study effect size variance in each of the meta-analyses. To explain this effect size variability and to address the second study aim, moderator analyses were performed across overall, dimensional, and component levels.

Moderator Analyses Based on Overall Self-compassion

Study and sample characteristics—including age, gender, publication year, sample type, and ethnicity—did not significantly moderate the association between overall self-compassion and psychopathology symptoms. Consequently, only the a priori defined moderators (i.e. psychopathology symptom domain, age, gender, and sample type; see "Methods") were included in further moderator analyses (Table 2). The psychopathology symptom domain did moderate the association and demonstrated a large negative association of self-compassion with depression ($r = -0.52$), a medium-to-large negative association with anxiety ($r = -0.49$), and medium negative associations with eating disorders ($r = -0.42$) and PTSD ($r = -0.40$). See Table 2 for more information, including pairwise comparisons with anxiety, which served as a reference category.

Moderator Analyses Based on the Dimensions of Self-compassion

In the meta-analysis on the CS dimension of self-compassion, only the psychopathology symptom domain was identified as a significant moderator. The CS dimension had the strongest association with symptoms of depression, followed by anxiety and eating disorders, with the weakest association observed for PTSD. Specifically, there was a medium negative association with symptoms of depression ($r = -0.35$) and eating disorders ($r = -0.30$). The association with anxiety ($r = -0.27$) was small-to-medium, and small with PTSD symptoms ($r = -0.19$). Likewise, in the meta-analysis on the UCS dimension of self-compassion, the psychopathology symptom domain was again identified as a moderator. The strongest, large positive associations were found with symptoms of depression ($r = 0.53$) and anxiety ($r = 0.49$), followed by a medium positive association with eating disorders ($r = 0.44$), while the weakest, small positive association was observed for PTSD ($r = 0.26$) (see Table 2 for more information, including pairwise comparisons with anxiety, which served as a reference category).

Moderator Analyses Based on the Six Components of Self-compassion

Mean age only moderated the association between self-kindness and psychopathology symptoms in the sense that the association became less strong when the mean sample age increased, but the effect size was extremely small ($\beta = -0.00002$), indicating minimal practical significance (see Table 2). The sample type was identified in the two meta-analyses on the over-identification and isolation components. Stronger mean associations were found between over-identification and psychopathology symptoms in vulnerable ($r = 0.48$) and non-clinical samples ($r = 0.47$) than in clinical samples ($r = 0.20$). Similarly, stronger mean associations were found between isolation and psychopathology symptoms in vulnerable ($r = 0.45$) and non-clinical samples ($r = 0.47$) than in clinical samples ($r = 0.22$). Psychopathology symptom domain significantly moderated the associations for two out of six self-compassion components. First, for the mindfulness component, the strongest association was with PTSD symptoms ($r = -0.49$), followed by depression ($r = -0.35$), anxiety ($r = -0.27$), and eating disorders symptoms ($r = -0.21$). Second, for the common humanity component, PTSD symptoms showed the strongest association with common humanity ($r = -0.44$), followed by depression ($r = -0.25$), anxiety ($r = -0.20$), and eating disorders symptoms ($r = -0.17$). The remaining four components did not show significant moderation effects by psychopathology symptom domain. For further details, see Table 2.

Publication Bias

Publication bias was examined using complementary statistical and visual approaches. The three-level Egger regression tests did not indicate small-study effects in any of the nine

Table 2 Results of moderator analyses across separately for overall score, dimensions, and components of the SCS

Coded variable	*k*	#ES	Intercept (95% CI)/mean *z* (95% CI)	Mean *r*	β_1 (95% CI)	*F* (df1, df2)[a]	*p*[b]
Overall SC score							
Publication year	220	387	−7.90 (−21.58, 5.79)	–	0.00 (−0.00, 0.01)	1.12 (1, 385)	0.292
Mean age	218	385	−0.54 (−0.57, −0.52)***	–	−0.00 (−0.00, −0.00)	2.12 (1, 383)	0.146
Percentage of males	220	387	−0.55 (−0.57, −0.52)***	–	−0.00 (−0.00, 0.00)	0.71 (1, 385)	0.399
Sample type						1.59 (2, 383)	0.206
Clinical (RC)	24	34	−0.49 (−0.56, −0.42)***	−0.45			
Non-clinical	138	236	−0.55 (−0.58, −0.52)***	−0.50	−0.06 (−0.14, 0.01)		
Vulnerable	66	116	−0.56 (−0.60, −0.52)***	−0.51	−0.07 (−0.15, 0.01)		
Ethnicity (categorised)						0.52 (4, 220)	0.724
All ethnic minority (RC)	2	3	−0.51 (−0.60, −0.42)***	−0.47			
Majority of ethnic minority	3	4	−0.67 (−0.86, −0.47)***	−0.58	−0.16 (−0.37, 0.06)		
Mixed	21	38	−0.54 (−0.61, −0.46)***	−0.49	−0.03 (−0.14, 0.09)		
Majority of ethnic majority	89	152	−0.53 (−0.57, −0.50)***	−0.49	−0.02 (−0.12, 0.07)		
All ethnic majority	13	28	−0.53 (−0.76, −0.30)***	−0.48	−0.02 (−0.26, 0.23)		
Psychopathology symptom domain						9.93 (3, 383)	<0.001
Anxiety (RC)	96	126	−0.53 (−0.56, −0.50)***	−0.49			
Depression	185	215	−0.58 (−0.60, −0.55)***	−0.52	−0.05 (−0.08, −0.01)**		
Eating disorders	18	26	−0.45 (−0.52, −0.37)***	−0.42	0.09 (0.01, 0.17)*		
PTSD	18	20	−0.42 (−0.50, −0.35)***	−0.40	0.11 (0.03, 0.19)**		
SE (Egger's test)	220	387	−0.51 (−0.56, −0.46)***	–	−0.49 (−1.11, 0.13)	2.42 (1, 385)	0.121
CS dimension							
Mean age	58	102	−0.32 (−0.37, −0.27)***	–	−0.00 (−0.00, 0.00)	0.12 (1, 100)	0.733
Percentage of males	58	102	−0.32 (−0.37, −0.27)***	–	−0.00 (−0.00, 0.00)	0.02 (1, 100)	0.896
Sample type						1.68 (2, 99)	0.191
Clinical (RC)	3	4	−0.48 (−0.72, −0.23)***	−0.44			
Non-clinical	45	80	−0.30 (−0.35, −0.25)***	−0.29	0.17 (−0.07, 0.42)		
Vulnerable	12	18	−0.37 (−0.48, −0.27)***	−0.36	0.10 (−0.16, 0.37)		
Psychopathology symptom domain						4.72 (3, 98)	0.004
Anxiety (RC)	24	31	−0.27 (−0.34, −0.21)***	−0.27			
Depression	46	55	−0.37 (−0.42, −0.32)***	−0.35	−0.10 (−0.16, −0.03)**		
Eating disorders	6	7	−0.30 (−0.44, −0.17)***	−0.30	−0.03 (−0.17, 0.11)		
PTSD	7	9	−0.20 (−0.32, −0.07)**	−0.19	0.08 (−0.06, 0.21)		
SE (Egger's test)	58	102	−0.27 (−0.37, −0.17)***	–	−0.77 (−2.07, 0.53)	1.39 (1, 100)	0.241
UCS dimension							
Mean age	53	94	0.53 (0.47, 0.59)***	–	0.00 (−0.00, 0.00)	0.29 (1, 92)	0.592
Percentage of males	53	94	0.53 (0.47, 0.59)***	–	0.00 (−0.00, 0.00)	0.69 (1, 92)	0.407
Sample type						0.22 (2, 91)	0.801
Clinical (RC)	4	10	0.55 (0.32, 0.78)***	0.50			
Non-clinical	41	69	0.53 (0.46, 0.59)***	0.48	−0.02 (−0.26, 0.22)		
Vulnerable	10	15	0.57 (0.44, 0.70)**	0.52	0.03 (−0.24, 0.29)		
Psychopathology symptom domain						7.47 (3, 90)	<0.001
Anxiety (RC)	21	28	0.54 (0.46, 0.61)***	0.49			
Depression	41	50	0.59 (0.53, 0.65)***	0.53	0.05 (−0.02, 0.12)		
Eating disorders	6	7	0.48 (0.33, 0.62)***	0.44	−0.06 (−0.22, 0.09)		
PTSD	7	9	0.27 (0.13, 0.40)***	0.26	−0.27 (−0.42, −0.13)***		
SE (Egger's test)	53	94	0.52 (0.40, 0.65)***	–	0.20 (−1.41, 1.89)	0.06 (1, 92)	0.803

Table 2 (continued)

Coded variable	*k*	#ES	Intercept (95% CI)/mean *z* (95% CI)	Mean *r*	β_1 (95% CI)	*F* (df1, df2)[a]	*p*[b]
Self-kindness							
Mean age	55	95	−0.34 (−0.38, −0.29)***	–	−0.00 (−0.00, −0.00)*	4.74 (1, 93)	0.032
Percentage of males	56	96	−0.35 (−0.40, −0.30)***	–	0.00 (−0.00, 0.00)	0.00 (1, 94)	0.982
Sample type						1.49 (2, 93)	0.230
Clinical (RC)	2	3	−0.15 (−0.38, 0.08)	−0.15			
Non-clinical	47	74	−0.36 (−0.40, −0.31)***	−0.34	−0.21 (−0.44, 0.03)		
Vulnerable	10	19	−0.35 (−0.45, −0.24) ***	−0.33	−0.20 (−0.45, 0.06)		
Psychopathology symptom domain						2.28 (3, 92)	0.085
Anxiety (RC)	26	34	−0.30 (−0.36, −0.24)***	−0.29			
Depression	48	58	−0.37 (−0.42, −0.32)***	−0.35	−0.07 (−0.13, −0.02)*		
Eating disorders	2	2	−0.33 (−0.59, −0.07)*	−0.32	−0.03 (−0.30, 0.23)		
PTSD	2	2	−0.44 (−0.69, −0.18)**	−0.41	−0.14 (−0.40, 0.12)		
SE (Egger's test)	56	96	−0.39 (−0.49, −0.28)***	–	0.60 (−0.82, 2.03)	0.71 (1, 94)	0.403
Mindfulness							
Mean age	53	92	−0.33 (−0.38, −0.28)***	–	−0.00 (−0.00, 0.00)	1.14 (1, 90)	0.289
Percentage of males	54	93	−0.34 (−0.39, −0.28)***	–	−0.00 (−0.00, 0.00)	0.00 (1, 91)	0.994
Sample type						2.24 (2, 90)	0.112
Clinical (RC)	2	3	0.11 (−0.36, 0.13)	−0.11			
Non-clinical	45	70	−0.33 (−0.38, −0.28)***	−0.32	−0.22 (−0.47, 0.03)		
Vulnerable	10	20	−0.40 (−0.51, −0.29)***	−0.38	−0.28 (−0.55, −0.01)		
Psychopathology symptom domain						4.03 (3, 89)	0.010
Anxiety (RC)	25	34	−0.27 (−0.39, −0.21)***	−0.27			
Depression	47	56	−0.36 (−0.42, −0.31)***	−0.35	−0.09 (−0.15, −0.04)**		
Eating disorders	2	2	−0.22 (−0.49, 0.06)	−0.21	0.06 (−0.23, 0.34)		
PTSD	1	1	−0.54 (−0.95, −0.12)*	−0.49	−0.27 (−0.69, 0.15)		
SE (Egger's test)	54	93	−0.36 (−0.47, −0.24)***	–	0.30 (−1.26, 1.86)	0.15 (1, 91)	0.701
Common humanity							
Mean age	53	90	−0.25 (−0.30, −0.21)	–	0.00 (−0.00, 0.00)	0.96 (1, 88)	0.330
Percentage of males	54	91	−0.25 (−0.29, −0.20)***	–	0.00 (−0.00, 0.00)	0.02 (1, 89)	0.888
Sample type						0.38 (2, 88)	0.682
Clinical (RC)	2	3	−0.16 (−0.36, 0.05)	−0.16			
Non-clinical	45	69	−0.25 (−0.29, −0.20)***	−0.24	−0.09 (−0.30, 0.12)		
Vulnerable	10	19	−0.25 (−0.35, −0.16)***	−0.25	−0.10 (−0.32, 0.13)		
Psychopathology symptom domain						3.19 (3, 87)	0.027
Anxiety (RC)	24	32	−0.20 (−0.26, −0.15)***	−0.20			
Depression	47	56	−0.26 (−0.30, −0.22)***	−0.25	−0.06 (−0.10, −0.02)**		
Eating disorders	2	2	−0.17 (−0.39, 0.04)	−0.17	0.03 (−0.20, 0.25)		
PTSD	1	1	−0.47 (−0.81, −0.13)**	−0.44	−0.27 (−0.61, 0.07)		
SE (Egger's test)	54	91	−0.25 (−0.34, −0.15)***	–	0.00 (−1.32, 1.32)	0.00 (1, 89)	0.998
Self-judgement							
Mean age	46	80	0.47 (0.43, 0.51)***	–	−0.00 (−0.00, 0.00)	0.01 (1, 78)	0.938
Percentage of males	47	81	0.47 (0.43, 0.51)***	–	0.00 (−0.00, 0.00)	0.51 (1, 79)	0.476
Sample type						2.55 (2, 78)	0.084
Clinical (RC)	2	3	0.25 (0.06, 0.45)*	0.25			
Non-clinical	40	63	0.48 (0.44, 0.52)***	0.45	0.23 (0.02, 0.43)*		
Vulnerable	8	15	0.45 (0.36, 0.55)***	0.42	0.20 (−0.03, 0.42)		

Table 2 (continued)

Coded variable	*k*	#ES	Intercept (95% CI)/mean *z* (95% CI)	Mean *r*	β_1 (95% CI)	*F* (df1, df2)[a]	*p*[b]
Psychopathology symptom domain						0.58 (3, 77)	0.630
Anxiety (RC)	21	29	0.46 (0.40, 0.52)***	0.43			
Depression	39	48	0.48 (0.43, 0.52)***	0.44	0.02 (−0.05, 0.08)		
Eating disorders	2	2	0.55 (0.34, 0.76)***	0.50	0.09 (−0.13, 0.31)		
PTSD	2	2	0.37 (0.17, 0.58)***	0.36	−0.09 (−0.30, 0.13)		
SE (Egger's test)	47	81	0.49 (0.40, 0.58)***	–	−0.32 (−1.55, 0.91)	0.27 (1, 79)	0.602
Over-identification							
Mean age	44	78	0.50 (0.47; 0.54)***	–	0.00 (−0.00, 0.00)	0.10 (1, 76)	0.757
Percentage of males	45	79	0.50 (0.46; 0.54)***	–	0.00 (−0.00, 0.00)	1.83 (1, 77)	0.181
Sample type						6.05 (2, 76)	0.004
Clinical (RC)	2	3	0.20 (0.02; 0.38)*	0.20			
Non-clinical	38	60	0.51 (0.48; 0.55)***	0.47	0.32 (0.13, 0.50)***		
Vulnerable	8	16	0.52 (0.44; 0.60)***	0.48	0.32 (0.13, 0.52)**		
Psychopathology symptom domain						0.58 (3, 75)	0.631
Anxiety (RC)	19	28	0.48 (0.43; 0.54)***	0.45			
Depression	38	48	0.51 (0.47, 0.55)***	0.47	0.03 (−0.03, 0.09)		
Eating disorders	2	2	0.46 (0.27, 0.65)***	0.43	−0.03 (−0.22, 0.17)		
PTSD	1	1	0.60 (0.31, 0.90)***	0.54	0.12 (−0.18, 0.42)		
SE (Egger's test)	45	79	0.53 (0.45, 0.62)***	–	−0.42 (−1.57, 0.73)	0.53 (1, 77)	0.470
Isolation							
Mean age	46	82	0.50 (0.47, 0.54)***	–	0.00 (−0.00, 0.00)	0.02 (1, 80)	0.884
Percentage of males	47	83	0.50 (0.46, 0.54)***	–	0.00 (−0.00, 0.00)	0.46 (1, 81)	0.499
Sample type						4.44 (2, 80)	0.015
Clinical (RC)	2	3	0.20 (0.02, 0.38)*	0.22			
Non-clinical	39	62	0.51 (0.48, 0.55)***	0.47	0.30 (0.09, 0.50)**		
Vulnerable	9	18	0.52 (0.44, 0.60)***	0.45	0.26 (0.04, 0.48)*		
Psychopathology symptom domain						1.86 (3, 79)	0.143
Anxiety (RC)	22	32	0.48 (0.43, 0.54)***	0.43			
Depression	39	48	0.51 (0.47, 0.55)***	0.48	0.07 (0.01, 0.13)*		
Eating disorders	2	2	0.46 (0.27, 0.65)***	0.43	−0.00 (−0.29, 0.22)		
PTSD	1	1	0.60 (0.31, 0.90)***	0.57	0.18 (−0.15, 0.51)		
SE (Egger's test)	47	83	0.53 (0.45, 0.62)***	–	−0.79 (−1.97, 0.40)	1.75 (1, 81)	0.189

SC, self-compassion; *k*, number of studies; *#ES*, number of effect sizes; *Mean z*, mean effect size (Fisher's *z*); *CI*, confidence interval; *Mean r*, mean correlation for categories of discrete variables; β_1, slope/regression coefficient representing the difference in (strength of) mean association between a category and the reference category (RC); *SE*, standard error. Near-zero values were rounded to zero

[a]Omnibus test of all regression coefficients in the model

[b]*p*-value of the omnibus test

*$p < 0.050$; **$p < 0.010$; ***$p < 0.001$

meta-analyses (i.e. overall self-compassion, the CS and UCS dimensions, and the six individual components), suggesting no systematic publication bias when accounting for effect-size dependency.

As a sensitivity analysis, trim-and-fill procedures were conducted to examine potential funnel plot asymmetry. These analyses suggested possible underrepresentation of small or non-significant effects in the meta-analyses of

overall self-compassion, the UCS dimension, and the self-judgement component, indicating that the corresponding mean effect sizes may be somewhat inflated. Given that trim-and-fill relies on a two-level implementation that does not fully accommodate the nested structure of dependent effect sizes, these results should be interpreted cautiously. Funnel plots for all meta-analyses are presented in Figure S2 in supplementary material.

Discussion

The present meta-analysis represents one of the most extensive syntheses of the literature on trait self-compassion as operationalised by the SCS (Neff, 2003) and its relationship with broader psychopathology symptoms, integrating findings from 256 studies including a total of 107,304 participants. We found a large negative correlation between overall self-compassion and psychopathology symptoms, which replicates associations reported in previous meta-analyses (e.g.Lou et al., 2022; Marsh et al., 2018; Muris & Petrocchi, 2016). Importantly, this meta-analysis also adopts a multifaceted approach by separately investigating the CS and UCS dimensions, as well as the six components of self-compassion, to provide more precise insights that go beyond the overall self-compassion score. We observed a clear difference in the relationship between the CS and UCS dimensions of self-compassion and psychopathology symptoms. The CS dimension (which includes the components self-kindness, mindfulness, and common humanity) was moderately associated with lower levels of psychopathology symptoms. In contrast, the UCS dimension, including the components self-judgement, isolation, and over-identification, had a stronger association with heightened psychopathology symptoms. Although the cross-sectional nature of the data precludes causal conclusions, these findings are consistent with Neff's theoretical model proposing that CS and UCS reflect qualitatively distinct psychological processes that are differentially associated with mental health; with CS as protective and UCS as linked to psychological vulnerability (e.g. Neff, 2003, 2023). Component-level analyses further reinforced this distinction, not only in direction but also in magnitude. While the positive components generally had small-to-medium associations with lower levels of psychopathology symptoms, the negative components showed medium-to-large associations with higher levels of symptoms. This asymmetry in the magnitude of associations is not directly predicted by Neff's theoretical model (e.g. Neff, 2003, 2023), which focuses more on the direction of the relationships. However, it is consistent with psychometric critiques of the SCS (e.g.Muris & Otgaar, 2020, 2022; Muris & Petrocchi, 2016), which argue that UCS components may inflate correlations with psychopathology due to conceptual overlap with psychopathology-related constructs. Importantly, effect size heterogeneity was observed in these associations at both the within- and between-study levels, indicating that the strength of the relationship between self-compassion and psychopathology symptoms varies depending on sample and study characteristics. This variability supports the need to examine these characteristics as potential moderators, particularly psychopathology symptom domains, to better understand when and for whom self-compassion is most strongly linked to mental health outcomes.

Our results showed that while self-compassion as measured by the SCS has transdiagnostic relevance, its effects are not uniform across psychopathology domains. The extent to which the association between self-compassion and psychopathology symptoms is moderated depends on whether it is examined at the overall, dimensional, or component level. Our findings suggest that the CS dimension of self-compassion is consistently associated with lower levels of psychopathology symptoms and may be particularly relevant in the context of symptoms of depression, anxiety, and eating disorders. Both CS and UCS dimensions are less associated with PTSD symptoms than with other symptom domains. Our results suggest that self-compassion dimensions may capture some psychopathology processes less than individual components. Indeed, at the component level, conclusions differ. Mindfulness and common humanity were significantly moderated by psychopathology symptom domain, while self-kindness was not. The significant moderation effects for mindfulness and common humanity suggest that their associations with psychopathology vary by symptom domain, with stronger negative associations observed with PTSD symptoms. In contrast, the non-significant moderation effect for self-kindness suggests that its association with symptoms is consistent across psychopathology domains. The significant and negative mean associations observed across all examined symptom domains (i.e. depression, anxiety, PTSD, and eating disorders) support the potential transdiagnostic relevance of self-kindness. Indeed, emotionally responding to one's suffering in a kind and considerate way not only is targeting the self-critical response, widely recognised as a transdiagnostic vulnerability factor in psychopathology (Löw et al., 2020), but also involves the active generation of the positive emotions of loving-kindness and care (Braehler & Neff, 2020) related to the activation of the soothing-affiliation system (Gilbert, 2015). Therefore, while some positive components of self-compassion may relate differently to specific symptom domains, self-kindness shows a stable negative association regardless of domain. In contrast, the negative self-compassion components (self-judgement, isolation, and over-identification) were not significantly moderated by psychopathology symptom domain when examined individually, despite the significant moderation observed at the dimension level. This discrepancy

suggests that the psychopathology symptom domain is differentially associated with the UCS dimension as a whole, but not with its individual components when examined separately. One possible explanation is that the three negative components are highly interrelated, and their cumulative effect, rather than their individual contributions, explains the significant moderation at the dimension level. In other words, the variation in the association between negative self-compassion and symptoms across disorder domains becomes evident only when self-judgement, isolation, and over-identification are considered together.

Overall, our findings provide a more refined understanding of the already recognised transdiagnostic relevance of self-compassion (e.g. Kirby, 2025). The pattern of significant moderation effects at the dimension level but not for all components suggests that both levels of analysis provide meaningful insights. Dimensions capture the broader patterns in the associations between self-compassion and psychopathology symptoms, while components reveal more nuanced, domain-specific variations. Our results support the recommendations by Ferrari et al. (2022) that future research should consider reporting findings at both the dimensional and component levels to provide a comprehensive understanding of how different aspects of self-compassion relate to psychopathology. However, several SCS subscales overlap conceptually with established processes such as self-criticism and emotion regulation, and therefore the present findings should be interpreted as associations between SCS-operationalised self-compassion and psychopathology symptoms, rather than as evidence for a novel psychological mechanism.

Sample type did not emerge as a significant moderator of the association between self-compassion and psychopathology symptoms at the overall or dimensional levels, suggesting that the observed associations are consistent across individuals with psychological diagnoses, medical conditions, and those without any diagnoses. However, at the component level, over-identification and isolation showed significantly stronger associations with psychopathology symptoms in non-clinical and medically vulnerable groups compared to individuals with psychological conditions. This pattern may reflect greater vulnerability among individuals not actively receiving structured mental health support, while individuals in psychological treatment (i.e. clinical populations) may already be engaging in interventions that target over-identifying and isolating tendencies, potentially weakening their associations with psychopathology. Interestingly, gender and age did not significantly moderate the associations between self-compassion and psychopathology symptoms at the overall, dimensional, or component level, in line with previous research (MacBeth & Gumley, 2012). While some meta-analytic studies showed small effect sizes for men scoring higher on self-compassion than women (Yarnell et al., 2015), these differences were insignificant when the gender role orientation was taken into account (Yarnell et al., 2019). The absence of significant moderation by publication year also suggests that the relationship between self-compassion and psychopathology symptoms has remained consistent over time and is not influenced by publication trends.

While our moderator analyses provided insight into some sources of variability, substantial heterogeneity remained unexplained. The presence of this heterogeneity indicates that the association between self-compassion and symptoms is not entirely uniform across studies. Beyond the moderators we examined, other factors may plausibly contribute to the effect size variability, such as differences in clinical severity, recruitment setting (community vs. clinical samples), cultural background, and variation in how psychopathology was operationalised. These sources of heterogeneity limit the extent to which the individual mean associations can fully capture the diversity of study contexts and populations and underscore the need for future primary studies and meta-analyses to more systematically assess and report such characteristics.

Although this meta-analysis is correlational, it revealed significant variability in the relationship between self-compassion and psychopathology symptoms across multiple factors. This, in turn, can offer valuable guidance to inform the development of tailored interventions in future research. While self-kindness was consistently associated with lower psychopathology symptoms across all disorders, suggesting its broad utility in interventions, mindfulness and common humanity showed particularly strong associations with lower PTSD symptoms. These findings suggest that interventions aimed at increasing the mindfulness and common humanity components of self-compassion might be particularly beneficial for those with PTSD, either as an addition to standard treatments or by emphasising these elements within interventions. Indeed, Braehler and Neff (2020) emphasised practical implications of the use of the mindfulness component in PTSD, suggesting it can help in validation of the pain or injustice experienced by the client and support them in expressing their truth rather than avoiding emotions. Similarly, the common humanity component can help foster a sense of connection and solidarity with others who experienced similar circumstances and empower individuals to reach out to others rather than withdraw in isolation and shame. Additionally, mindfulness was strongly associated with lower symptoms of depression, supporting previous evidence that mindfulness-based interventions effectively reduce depressive symptoms (Goldberg et al., 2019) and help prevent relapse (Kuyken et al., 2016). Our findings suggest that mindfulness training could be particularly beneficial in interventions targeting depression and PTSD, which is reflected in existing meta-analyses of Goldberg et al. (2019) and Hopwood and & Schutte (2017). However,

while our findings align conceptually with mindfulness-based intervention research, they cannot be linked to existing self-compassion intervention studies, as these typically target common humanity, self-kindness, and mindfulness components simultaneously. Therefore, it does not allow conclusions about which components are most responsible for clinical change. Nevertheless, while our paper focuses on self-compassion as measured by the SCS, it is important to note that components such as mindfulness, self-kindness, and common humanity can be cultivated by various therapeutic modalities, including compassion-based, mindfulness-based, and cognitive-behavioural approaches. Future studies should further investigate how different interventions engage with self-compassion components and whether specific approaches are more effective for certain populations or symptom profiles.

Our results further indicate that age and gender did not significantly moderate the self-compassion–psychopathology relationship, suggesting that self-compassion interventions may be broadly applicable across ages and gender groups. This was aligned with other meta-analyses on psychological constructs (Liao et al., 2021; MacBeth & Gumley, 2012). However, considering the significant moderator of age in adolescent meta-analysis (Marsh et al., 2018), developmental needs remain important when designing interventions. For younger individuals, interactive and peer-supported elements that foster common humanity may enhance engagement. Similarly, while previous research has suggested small gender differences in self-compassion (Yarnell et al., 2019), there is still much more research to be done on how gender socialisation may interact with the development of self-compassion and whether these results would be replicated if the SCS were used at the component level (Muris & Otgaar, 2020) or with different self-compassion measures. Sample type was not a significant moderator at the overall level, consistent with previous meta-analysis (MacBeth & Gumley, 2012) or dimensional levels, but at the component level, over-identification and isolation showed stronger associations with psychopathology in non-clinical and medically vulnerable groups compared to clinical populations. This pattern highlights the potential benefit of targeting these negative self-compassion components in individuals without access to structured mental health support. Medically vulnerable individuals, in particular, may benefit from interventions that emphasise mindfulness and self-kindness, which could help promote adaptive coping and emotional resilience in the face of chronic health challenges. By considering these moderating factors, clinicians and researchers can develop self-compassion interventions that are tailored to specific psychopathologies and population characteristics. These refined approaches have the potential to maximise intervention efficacy, enhance psychological resilience, and improve mental health outcomes across both clinical and non-clinical contexts.

Our results specifically pertain to the SCS, providing focused insights within this particular conceptualisation of self-compassion. Our findings align with and extend the previous work of Muris and colleagues (Muris & Otgaar, 2020; Muris et al., 2016, 2019, 2024), demonstrating that the negative UCS dimension and its components show stronger associations with psychopathology symptoms than the positive CS dimension and its components. These results show the limitations of relying on the total SCS score because aggregating compassionate and uncompassionate components may mask their distinct contributions. Although the factor analytic studies of the SCS indicate that a bifactor model with one general self-compassion factor and six specific components provides the best fit (Neff et al., 2019), it is important to note that factor structure only informs how items cluster psychometrically, and it does not show whether these components are linked clinically (Ranganathan et al., 2015). This distinction is in line with neurophysiological evidence showing that self-criticism and shame engage threat-related neural circuits, whereas compassion engages the affiliative and soothing system (Kim et al., 2020a, 2020b).

To address this, we recommend that future studies report CS and UCS dimensions separately and, whenever feasible, also report data for all six SCS subscales. This approach allows a more fine-grained understanding of the self-compassion construct as operationalised by the SCS. The results should be interpreted with caution as CS and UCS dimensions and their corresponding components reflect distinct psychological processes: CS captures protective aspects of self-compassion, and UCS overlaps with psychological vulnerability factors (e.g. self-criticism, rumination). When the research aim is to examine self-compassion as a protective factor, focusing on the CS dimension and its components offers a more precise operationalisation. Conversely, when the goal is to study broader patterns of self-relating or mechanisms of change, examining both CS and UCS may be informative, provided they are treated as distinct constructs rather than combined into a single total score. Despite these issues, the SCS has played a central role in shaping empirical research and clinical interventions over the past two decades. As the field moves forward, new theoretical conceptualisations and measurement tools are increasingly available (Falconer et al., 2015; Gilbert et al., 2017; Gu et al., 2020; Khoury et al., 2023). Thus, we encourage researchers to reflect on their theoretical stance and select a self-compassion measure accordingly. If the choice is to use the SCS, then scoring methods that acknowledge the nuances on both the dimensional and component levels should be adopted, rather than relying exclusively on one overall SCS score.

While the present meta-analytic results provide valuable insights for researchers employing the SCS, they also underscore the need to consider broader theoretical perspectives that address fundamental conceptual questions. First, although our data suggest the universality of self-kindness as a psychopathology prevention and treatment component, it is important to note that while kindness is an important aspect of supportive responses to suffering, research suggests that compassion extends beyond that. Gilbert et al. (2019) argue that compassion and kindness are distinct processes, as compassion is more closely tied to recognising suffering and can be sustained even toward disliked individuals (Kirby et al., 2022). Kindness is linked to emotional states such as friendliness, thoughtfulness, promotion of positive emotions, and social harmony, and it is strongly influenced by affiliative motivation (Gilbert et al., 2019; Kirby et al., 2022). Compassion, by contrast, involves complex emotions, and courageous engagement with suffering and a commitment to alleviate and prevent it, even when doing so is difficult, threatening, or emotionally costly (Poulin, 2017). This distinction is supported by physiological evidence showing that compassion includes action-oriented and regulatory components not fully captured by kindness alone (Di Bello et al., 2021). Second, self-compassion encompasses a range of capacities beyond those captured by the SCS, including self-awareness, empathy, and mentalising, as well as the ability to tolerate distress and to trust, seek support from, and be open to receive compassion from others (e.g. Hermanto & Zuroff, 2016; Matos et al., 2017). Finally, the relational conceptualisation of compassion in the Mahāyāna Buddhist tradition renders the self-kindness component of the SCS particularly incompatible with this tradition, as it involves an "othering of oneself so that one can become an object of one's own kind concern for the purpose of self-soothing and self-care" (Dunne & Manheim, 2023; p. 2378). Understanding the unique contributions of kindness vs. courageous engagement with the suffering, together with other important intrapersonal, interpersonal, and embodiment-related components that are not currently addressed in SCS (see Cha et al., 2023 for extensive review) will be critical for advancing the compassion construct.

Another interesting research methodology to consider in future studies is the process-based perspective (e.g. Ferrari et al., 2022), which approaches self-compassion from an idiographic perspective, while taking into account various contextual factors in understanding this dynamic. Ferrari and colleagues (2022) recommend collecting high-density longitudinal measurements in order to examine the role of self-compassion and its key components within each individual, while taking into account moment-to-moment variability. Finally, applying methodologies such as ecological momentary assessment (e.g. Sahdra et al., 2023), network analysis (e.g. Contreras et al., 2019), and process-oriented approach (e.g. Ciarrochi et al., 2024) may provide a deeper understanding of the relationship between self-compassion and psychopathology, bridge different theoretical perspectives, and facilitate the operationalisation of the self-compassion construct in future measure development.

Limitations, Strengths, and Future Directions

This meta-analysis has several limitations that provide important directions for future research. One key limitation is the overrepresentation of non-clinical studies, which limits the generalisability of findings to psychiatric populations. Most included studies assessed psychopathology at the symptom level rather than through formal clinical diagnoses, blending symptom-level and diagnosis-based data. Additionally, for analytic feasibility, diverse symptom measures were grouped under broad psychopathology categories, which may have introduced additional heterogeneity due to differences in symptom scope, severity, and clinical specificity. Although we tested sample type as a moderator, this approach still may have masked some differences in the associations across clinical and non-clinical contexts. While grouping studies by psychopathology symptom domain offered valuable insights into how self-compassion relates to specific psychopathologies, these findings should be interpreted with caution and replicated first before the conclusions are implemented in clinical populations. Future research should prioritise studies conducted within clinical populations and expand beyond the four psychopathology symptom domains assessed here to provide a more comprehensive understanding of the role of self-compassion in mental health. A second limitation is the correlational nature of the included studies, which precludes causal inferences about the relationship between self-compassion and psychopathology symptoms. While our findings consistently suggest that trait self-compassion is associated with better mental health outcomes, the cross-sectional design cannot establish whether self-compassion causally reduces psychopathology or whether individuals with lower psychopathology simply exhibit higher self-compassion. Although prior meta-analytical studies demonstrated that compassion-based interventions are effective in reducing various psychopathological symptoms and increasing well-being (e.g. Kirby et al., 2017), more longitudinal (e.g. Schuling et al., 2020) and experimental designs (e.g. Diedrich et al., 2014) are necessary to establish causality and clarify the mechanisms by which self-compassion exerts its protective effects, especially on the scale-component level (e.g. ter Avest et al., 2021). For instance, interventions targeting specific components of self-compassion could help disentangle their unique contributions to improved mental health outcomes. Future research should also explore the dose–response relationship between self-compassion interventions and

mental health improvements, as longer interventions may yield stronger effects, as evidenced by prior meta-analytic findings (Ferrari et al., 2019, p. 20; Wakelin et al., 2022). Additionally, although this meta-analysis shows the transdiagnostic relevance of self-compassion, the data needed to directly test the underlying transdiagnostic processes were not available. Thus, future research should prioritise longitudinal and experimental designs to clarify causal pathways linking self-compassion to processes such as self-criticism, shame, and guilt. Currently, there is meta-analytic evidence that self-compassion interventions reduce self-criticism (Vidal & Soldevilla, 2023; Wakelin et al., 2022), but much less is understood about other transdiagnostic processes at play. Finally, the definition of mental health extends beyond merely reducing psychopathology; it also encompasses the promotion of well-being, personal growth, and flourishing (Keyes, 2005). Therefore, exploring the relationship between the dimensions and/or components of self-compassion and positive mental health variables is a valuable area of study. Additionally, investigating protective transdiagnostic processes related to affiliative mechanisms and caring motivation, such as social safeness (Gilbert, 2024), which engage psychophysiological mechanisms and neural circuits overlapping with compassion (e.g. Novak et al., 2022), presents a promising direction for future research.

This meta-analysis also has several strengths that contribute to the field. One key strength is its multilevel meta-analytic approach, which accounts for variability within and between studies and provides robust pooled estimates that increase the reliability of the findings. However, as with all traditional meta-analyses, it is subject to aggregation bias, as effect sizes are averaged at the study level. This may obscure individual differences and nuanced patterns within the data. Individual participant data (IPD) meta-analyses can address this limitation by using raw, participant-level data, enabling a more precise examination of moderators and associations (e.g. Galante et al., 2023; Riley et al., 2021). Future research incorporating IPD methods could build on these strengths to provide deeper insights into how self-compassion operates across diverse populations and contexts. Another strength is that by examining both the positive and negative components of self-compassion, this meta-analysis provides a nuanced understanding of their distinct roles in psychopathology. With a large aggregated sample size, it offers one of the most comprehensive evaluations of self-compassion to date. The inclusion of diverse populations and a detailed moderator analysis further broadens the scope, allowing for insights into the impact of self-compassion across varied contexts. This robust analytic approach provides a strong foundation for future research that will further deepen our understanding of self-compassion and psychopathology.

In light of ongoing theoretical debates and the need to advance the field, it is important to recognise that the choice of conceptual framework has substantial implications for research design, measurement selection, data interpretation, and the development of future clinical interventions. Most importantly, however, it illustrates how methodological choices iteratively shape both theoretical understanding and the practical application of psychological constructs. It may take some time before a consensus is reached in the field, similar to how it took more than 40 years to clarify the dimensionality of positive and negative affect (Stanton & Watson, 2014). Ideally, continuous dialogue and efforts to reach consensus among experts in the field could lead to the selection of measurement tools that are most closely aligned with agreed-upon theoretical assumptions and the definition of self-compassion; thereby avoiding the risk of conflating distinct processes or overlooking essential aspects of this construct. In the meantime, until such consensus is achieved, it is critical for all researchers to carefully determine which theoretical model of (self-)compassion and corresponding operationalisation they wish to adopt. This underscores the importance of making transparent, theory-driven choices in measurement, which are essential for advancing both the scientific understanding and clinical application in the field.

In summary, this comprehensive meta-analysis highlights self-compassion as a key factor in mental health, with differential associations observed across its positive and negative dimensions and components. The findings emphasise the multifaceted nature of self-compassion as a construct and reinforce its transdiagnostic relevance, which has clinical and research implications. By reaching consensus on the conceptualisation and operationalisation of the concept, addressing methodological limitations, and exploring transdiagnostic processes, future research can advance our understanding of the role of self-compassion in mitigating psychopathology across diverse populations.

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Author Contribution Ivana Buric contributed to writing the original draft, writing review and editing, data curation, and project administration. Maja Wrzesien contributed to conceptualization, methodology, software of 2 search phases, validation, investigation, data curation, writing review and editing, and project administration. Mark Assink contributed to methodology, formal analysis, writing review and editing. Esther I. de Bruin and Susan M. Bögels contributed to conceptualisation, supervision and writing review and editing. Petra Helmond (in 1 st search phase), Marleen J. ter Avest, and Ana Pizarro-Carmona (in

2nd search phase) contributed to conceptualisation, software, validation, investigation, data curation, writing review and editing. Marleen J. ter Avest and Petra Helmond contributed equally to this work. Milica Nikolic and Eline Möller contributed to conceptualization, methodology, writing review and editing. Corina U. Greven contributed to supervision. Maja Wrzesien and Susan Bögels contributed to funding.

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Data Availability The full dataset and the syntax are available upon request.

Declarations

Ethics Approval Ethical approval was not required for this study because it is a meta-analysis based on previously published data.

Informed Consent Informed consent was not required for this study because it is a meta-analysis based on previously published data.

Use of Artificial Intelligence Artificial intelligence (AI) tools (ChatGPT) were used solely to improve the readability and language of the manuscript. The authors confirm that all data collection, analysis, interpretation, and conclusions are entirely their own and take full responsibility for the content.

Conflict of Interest Drs. Ivana Buric, Marleen J. ter Avest, Petra Helmond, Ana Pizarro-Carmona, Maja Wrzesien, Esther de Bruin, and Susan Bögels are trained or certified mindfulness and/or self-compassion teachers and/or teacher trainers. The remaining authors have no conflicts of interest to declare.

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Authors and Affiliations

Ivana Buric[1] · Marleen J. ter Avest[2] · Petra Helmond[3] · Mark Assink[4] · Milica Nikolic[4] · Ana Pizarro-Carmona[5] · Eline Möller[6] · Esther I. de Bruin[4,7] · Susan M. Bögels[1] · Corina U. Greven[2,8,9] · Maja Wrzesien[10]

✉ Maja Wrzesien
maja.wrzesien@uv.es

Ivana Buric
i.buric@uva.nl

Marleen J. ter Avest
Marleen.terAvest@radboudumc.nl

Petra Helmond
p.helmond@levvel.nl

Mark Assink
m.assink@uva.nl

Milica Nikolic
M.Nikolic@uva.nl

Ana Pizarro-Carmona
apizarro1@us.es

Eline Möller
e.l.moller@amsterdamumc.nl

Esther I. de Bruin
e.i.debruin@uva.nl

Susan M. Bögels
s.m.bogels@uva.nl

Corina U. Greven
corina.greven@donders.ru.nl

[1] Department of Psychology, University of Amsterdam, Amsterdam, The Netherlands

[2] Donders Institute for Brain, Cognition and Behaviour, Department of Cognitive Neuroscience, Radboud University Medical Centre, Nijmegen, The Netherlands

[3] Levvel Specialists for Youth and Family, Amsterdam, The Netherlands

[4] Research Institute of Child Development and Education, University of Amsterdam, Amsterdam, The Netherlands

[5] Faculty of Psychology, Department of Developmental and Educational Psychology, University of Sevilla, Sevilla, Spain

[6] Department of Rehabilitation Medicine, Amsterdam Reproduction and Development, Amsterdam UMC, University of Amsterdam, Amsterdam, The Netherlands

[7] UvA minds, Academic Treatment Centre, University of Amsterdam, Amsterdam, The Netherlands

[8] Institute of Psychology, Psychiatry and Neuroscience, Social, Genetic and Developmental Psychiatry, King's College London, London, United Kingdom

[9] Karakter Child and Adolescent Psychiatry University Centre, Nijmegen, The Netherlands

[10] Personality, Evaluation and Psychological Treatments; Polibienestar Institute, Universitat de València, Valencia, Spain