

Investigating the relationships between Neuroticism, Self-Compassion and Coping Styles

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Abstract

Oriëntatie: Neuroticisme beïnvloedt in hoeverre individuen hun eigenwaarde en zelfcompassie evalueren. Er is echter weinig bekend over hoe het positieve of negatieve coping van individuen de relatie tussen neuroticisme en zelfcompassie beïnvloedt.

Doel van het onderzoek: Het doel van dit onderzoek was om de relatie tussen neuroticisme, positieve/negatieve coping stijlen en zelfcompassie te onderzoeken.

Motivatie voor het onderzoek: Meer onderzoek is nodig om beter te begrijpen op welke coping stijlen gefocust moet worden in therapie om zelfcompassie te bevorderen. Het is in het bijzonder moeilijk om mensen met hoge mate van neuroticisme te helpen, dus is informatie om deze groep te helpen in therapie nodig.

Onderzoeksaanpak, design en methode: Een cross-sectional survey design werd gebruikt met een gemakproef van 212 respondenten uit Nederland en Duitsland. De neuroticism schaal van de BFI, de CERQ (coping stijlen) en de SCS (zelfcompassie) werden gebruikt. Simpele regressie and moderatie analyses worden gebruikt om de data te analyseren.

Voorname bevindingen: Er is een negatieve relatie tussen neuroticisme, positieve coping stijlen en zelfcompassie gevonden en een positieve relatie tussen neuroticisme en negatieve coping stijlen. Verder hadden negatieve coping stijlen een significant modererend effect op de relatie tussen neuroticisme en zelfcompassie.

Praktische implicaties: Neurotische mensen tonen vaak lage levels van zelfcompassie. Focussen op positieve coping stijlen helpt niet, maar het managen van negatieve coping stijlen wel. Therapeuten moeten daarom de op coping strategie gebaseerde therapieën aanpassen.

Contributie: Dit onderzoek draagt bij aan de kennis over de rol die negatieve coping stijlen spelen in het verminderen van de sterkte van de negatieve relatie tussen neuroticisme en zelfcompassie. Negatieve coping stijlen zijn dus belangrijk als we neurotische mensen willen helpen zelfcompassie te ervaren. Negatieve coping stijlen lijken van minder belang.

Abstract

Orientation: Neuroticism affects the extent towards which individuals evaluate their own self-worth and self-compassion. Yet little is known about how individuals positively or negatively cope influences the relationship between neuroticism and self-compassion.

Research purpose: The aim of this study was to investigate the relationship between neuroticism, positive/negative coping styles and self-compassion.

Motivation for the study: Research is needed to better understand what coping styles should be focused on in therapy to enhance self-compassion. Especially, aiding people with high neuroticism is difficult, so information is needed on how to best help them through therapy.

Research approach, design and method: A cross-sectional survey design was used with a convenience sample of 212 respondents from the Netherlands and Germany. The neuroticism scale from the BFI, the CERQ (coping styles) and the SCS (self-compassion) were used. Simple regressions and moderation analyses were used to analyse the data.

Main findings: Findings showed a negative relationship between neuroticism, positive coping styles and self-compassion as well as a positive relationship between neuroticism and negative coping styles. Furthermore, negative coping styles had a significant moderating effect on the relationship between neuroticism and self-compassion.

Practical implications: Neurotic people often show low levels of self-compassion. Focusing on positive coping styles does not enhance self-compassion, whereas managing negative coping styles does. Therapists are therefore advised to adjust coping strategy based therapies.

Contribution/value-add: This study contributes to knowledge regarding the role negative coping styles played in buffering the negative relationship between neuroticism and coping styles. Practically, this study shows that negative coping styles are important when we want to help neurotic people experience self-compassion whereas positive coping styles do not seem to hold this same importance.

Introduction

Therapists struggle with aiding individuals with neuroticism in building positive evaluations of the self. This most likely has to do with the fact that neuroticism has this strong relationship with negative emotions and pathology. The result is that it's difficult to enhance self-worth in people who score high on neuroticism. This was explained as neuroticism being related to low self-esteem, which in turn contributed to low self-worth (Crocker & Luhtanen, 2003). However, it turns out it is difficult to help people develop self-esteem. This might have to do with the fact that self-esteem seems to come from the environment (Neff & Vonk, 2008). Neff (2003a) introduced an alternative to self-esteem, namely self-compassion. In contrast with self-esteem, self-compassion is entirely independent of environment and is completely based on the individual Neff (2003a). Neff and Vonk (2008) found that self-compassion predicted more stable feelings of self-worth than self-esteem and it was suggested that self-compassion might be a useful alternative to self-esteem when it comes to developing a healthy self-image. However neuroticism also has a strong negative relationship with self-compassion (Neff, Rude, & Kirkpatrick, 2007) which leaves therapists with the same initial problem of how to enhance self-worth in patients with high levels of neuroticism. A construct that's been proven to be related to personality traits before is coping styles (Haren & Mitchell, 2003; Besharat, 2007; Connor-Smith & Flachsbart, 2007), which has to do with the way people usually deal with stressful situations. Therefore it could very well be possible that coping styles might play a role in the relationship between neuroticism and self-compassion. In therapy there are mainly two approaches to coping styles, namely Positive Coping and Negative Coping. The first consists of five coping styles, namely *acceptance*, *positive refocusing*, *refocus on planning*, *positive reappraisal* and *putting into perspective* and the second approach contains four coping styles, namely *self-blame*, *ruminating or focus on thoughts*, *catastrophizing* and *other-blame* (Granefski, Kraaij, & Spinhoven, 2002). Although

therapists try to focus on improving positive coping styles and try to reduce negative coping styles, it has never been proven which (if any) of these two approaches works. It is not clear which approach possibly influences the relationship between neuroticism and self-compassion.

Therefore, these three concepts form the focus of this research. The aim of this research is to find out whether there is a significant relationship between neuroticism and self-compassion. Furthermore, this research is aimed at finding out whether coping styles might play a role in this relationship and in what way.

Literature review

Neuroticism

Neuroticism is a personality trait derived from the Big Five personality traits. This personality trait is about being more sensitive or nervous than people from the general population. People that score high on neuroticism tend to easily feel negative emotions (such as anxiety, worry, fear, anger, frustration, envy, jealousy, guilt, depressed mood, and loneliness) and are therefore more prone to mental conditions such as depression and anxiety. Someone with a low neuroticism score is often seen as more confident and more emotionally stable.

Neuroticism seems to have this strong relation with pathology and negative emotions in general, more so than other personalities. Aside from that neuroticism is according to Eysenck's personality theory also related to low tolerance for stress and aversive stimuli.

Mijolev and Sibley (2017) showed that neuroticism can actually change over time as well, where in general older people show lower levels of neuroticism than younger people.

Furthermore, there's also a meta-study that confirms that neuroticism has a strong negative relationship with social wellbeing (DeNeve, 1999) and as stated before, Neff et al. (2007) found reason to believe that neuroticism is also negatively related to self-compassion.

However, further research is still to be found on the relationship between neuroticism and self-compassion as in the research by Neff et al. (2007) neuroticism wasn't the focus of the study, so it is important to do further research on this possible relationship. It is however to be expected that there is a strong negative relationship due to the fact that neuroticism contains the tendency to obsess over negative emotions, which would go against both self-kindness and mindfulness (two of the three parts of the construct of self-compassion) (Neff, 2003a). Neuroticism, as stated before, is also linked to the negative emotion of loneliness. This might contrast the concept of common humanity that is also a part of self-compassion (Neff, 2003a). Therefore, it seems likely that neuroticism will at least have some kind of negative relationship with self-compassion.

Self-compassion

Self-compassion has become a popular subject of inquiry in positive psychology due to its positive impact on individual wellbeing (Hall, Row, Wuensch, & Godley, 2013; Akin, 2014; Soysa and Wilcomb, 2015). Self-compassion is defined as the ability to be kind to oneself also in times where negative things happen to an individual and where there is a feeling of inability or inadequacy (Neff, 2003a; Gilbert, 2014) and has been linked to various psychological states such as wellbeing (Hall et al., 2013; Akin, 2014; Soysa and Wilcomb, 2015), but also lesser fear of failure and greater perceived competence, which leads to mastery oriented goals (Neff, Hsieh, & Dejitterat, 2005). Self-compassion is also positively correlated to self-efficacy and control beliefs for learning (Iskender, 2009). This shows that self-compassion might not only be of use when it comes to wellbeing, but also for academic purposes in order to motivate students. Although researchers agree on the benefits associated with self-compassion, there is still debate as to how it should be defined, developed and positioned within the positive psychological literature. Primarily, two main approaches towards self-compassion exist within academic literature: Gilbert (2014) and Neff (2003a).

Gilbert founded Compassion Focused Therapy (CFT), which is aimed at enhancing feelings of inner warmth, safeness and soothing through compassion and self-compassion. This is done using compassionate mind training. According to Gilbert (2014) Compassion Focused Therapy is heavily based on Darwinism and the idea that social processes play a role in the evolution of the brain and training people in compassion can have many benefits both psychologically and physiologically (even for people with major mental health problems). Compassion, according to research by Gilbert, McEwan, Matos and Rivis (2011), contains “compassion for others, compassion from others and, compassion for self.” Gilbert, Clark, Hempel, Miles, and Irons (2004) provide data showing that there are people who seem afraid of receiving and giving (to others or to the self) affection and that some people that try to avoid compassionate experiences or behaviours altogether. There are many types of therapy that are based on compassion in at least a small amount and especially therapy aimed at regulating threat-based emotions needs compassion (as mentioned earlier). Therefore, the results of this research show the importance of finding out who those people are and why they actively avoid compassion (Gilbert et al., 2011).

Where Gilbert focuses on clinical psychology and uses evolutionary theory as his basis for self-compassion, Neff (2003a) uses an approach centred more around social psychology. According to Neff (2003a) self-compassion knows three components (and their counterparts): *self-kindness*, *common humanity* and *mindfulness*. Self-kindness is the ability to be understanding and forgiving to oneself in times of pain or failure. The opposite of self-kindness is known as self-judgement. Common humanity is the realisation that every person is only human (just like the self), which is accompanied by pain and imperfection. The opposite of common humanity is isolation, where a person believes they are the only one to experience certain emotions or situations. Mindfulness is about the balance between ignoring negative feelings and facing them. It is a neutral state of observations where neither

suppression nor over-exaggeration takes place. The counterpart of mindfulness is believed to be over-identification with negative thoughts (Neff, 2003a).

As many researchers use this definition by Neff (2003a) in their research together with the methods of measuring the concept provided by Neff, for example the Self-Compassion Scale, it was decided to use Neff's definition of self-compassion above Gilbert's. According to Hall et al. (2013) self-compassion predicted physical and psychological wellbeing, self-kindness predicted both physical wellbeing and managing life stressors, common humanity predicted physical wellbeing and mindfulness predicted managing life stressors. Akin (2014) showed that the three negative components of the self-compassion as defined by Neff (2003a) predicted low levels of social wellbeing, whereas self-kindness and common humanity predicted social wellbeing. Furthermore, the construct of self-compassion predicted 33% of the variance in wellbeing (Neff, 2003a). Soysa and Wilcomb (2015) show similar results: mindfulness predicts wellbeing. Self-judgement and isolation seem to have relevance for depression and self-compassion seems to be an important predictor for wellbeing. It is clear that self-compassion is so far mainly studied in relation to wellbeing in research and the only research on the relationship between personality and self-compassion was done by Neff et al. (2007). This study found that self-compassion is positively correlated with agreeableness, extraversion and conscientiousness, while only neuroticism was negatively correlated with self-compassion. Therefore, it was decided to use Neff's definition of self-compassion above Gilbert's definition.

It is however still not clear how self-compassion as defined by Neff (2003a) relates to coping styles, since no research has been done on this subject. As stated before, therapists mainly use two approaches when it comes to coping styles, namely Positive Coping and Negative Coping and it has been assumed that stimulating positive coping styles and reducing negative coping styles was to be encouraged. When it comes to self-compassion, this seems very reasonable,

since positive coping styles (such as acceptance, positive refocusing, refocus on planning, positive reappraisal and putting into perspective) theoretically seem to be more related to self-kindness, common humanity and mindfulness than the negative coping styles (self-blame, rumination or focus on thoughts, catastrophizing and other-blame). Especially, the negative coping styles like rumination or focus on thoughts and catastrophising seem to strongly go against the concept of mindfulness as defined by Neff (2003a).

Coping styles

Psychologists aim to help individuals cope with the stressful or negative life events. This is even more important for people that present with a neurotic personality style. This is due to the tendency of people with high neuroticism scores to focus on negative emotions. Therapists want to negate these negative emotions by helping clients and patients use more positive coping styles and manage their negative coping styles. Coping is defined as handling stressful situations and trying to come up with a solution in a manner that minimizes stress and further conflict (Cummings, Greene & Karraker, 2014) and is broadly comprised out of positive and negative coping styles.

Positive coping refers to the usage of coping styles that contribute to finding a solution for a problem in a stressful situation. In other words, positive coping styles are manners of coping as defined by Cummings et al. (2014). Positive coping is comprised out of five factors, namely acceptance, positive refocusing, refocus on planning, positive reappraisal and putting into perspective as defined by Garnefski et al. (2002). It seems possible that helping people to focus on good things or help them focus on planning and solving their problems might make them more self-compassionate. However, one can also imagine that a person who has the tendency to have negative emotions does not feel helped when told to accept the situation or to put things into perspective, since this person is just angry or scared for example. It is not

clear whether positive coping styles could have influence on the relationship between neuroticism and self-compassion, but it seems at least to be one possible outcome.

Negative coping refers to the usage of coping styles that do not contribute to finding a solution for a problem in a stressful situation. Using the definition of Cummings et al. (2014) for coping, these styles would constitute a lack of coping. Negative coping is comprised of four factors, namely self-blame, rumination or focus on thoughts, catastrophizing and other-blame as defined by Garnefski et al. (2002). It seems logical that people who score high on neuroticism, and have the tendency to focus on negative emotions, would use many if not all of these four negative coping styles. An angry person for example seems likely to put blame on the self or others, whereas a scared person might be prone to catastrophizing and someone who obsesses over negative emotions in general might have the tendency to ruminate or focus on thoughts, especially negative ones. Therefore, it seems likely that negative coping style will in some way influence the relationship between neuroticism and self-compassion.

Seeing that there is no research available that provides empirical evidence as to the impact of these coping styles, it seems important to find out how these constructs work together, especially since we know there's a very strong relationship between personality traits and coping styles (Haren & Mitchell, 2003) and a meta-analysis from Connor-Smith and Flachsbart (2007) shows neuroticism is significantly related to problematic coping styles such as wishful thinking, withdrawal, and emotion-focused coping. Understanding the role that coping styles play in the relationship between neuroticism and self-compassion is important due to the fact that coping styles are broadly used to help form new therapy strategies (Barlow, Allen, & Choate, 2004; Aldao & Nolen-Hoeksema, 2010).

Study hypotheses

Based on the preceding literature review and problem statement, the purpose of this article is to investigate the relationship between neuroticism, self-compassion and (positive/negative) coping styles. Specifically, the aim is to investigate whether positive or negative coping styles moderate the relationship between neuroticism and self-compassion. The following hypotheses were formulated to investigate such:

H_{1a}: Neuroticism relates negatively to self-compassion and positive coping styles.

H_{1b}: Neuroticism relates positively to negative coping styles.

H_{2a}: Positive coping styles moderate the relationship between neuroticism and self-compassion.

H_{2b}: Negative coping styles moderate the relationship between neuroticism and self-compassion.

These hypotheses, if accepted, would lead to the model shown in Figure 1.

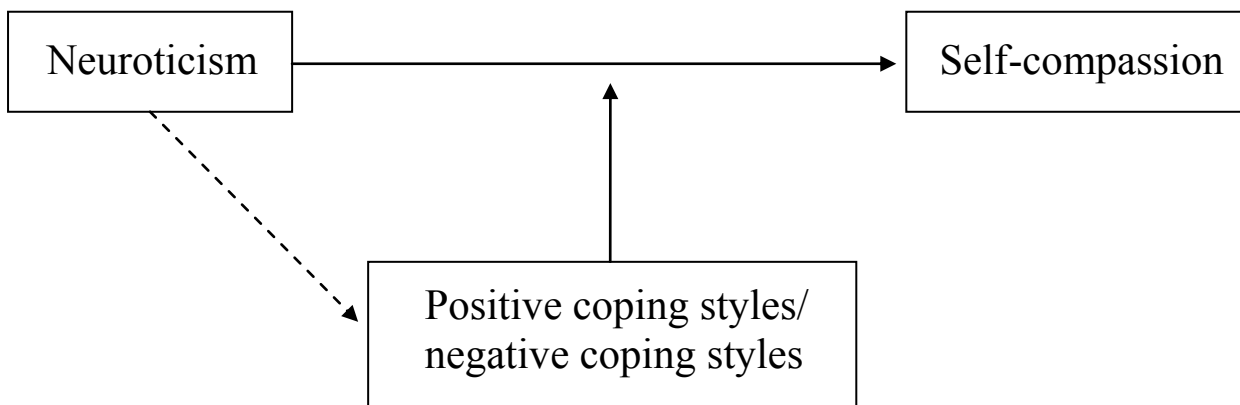


Figure 1

Possible model neuroticism, coping styles and self-compassion

Method

Research approach

This study employs a descriptive cross-sectional correlational electronic survey based research design. This was done to give an accurate depiction of the respondents in order to better interpret the data and to determine the relationships between the constructs. Lastly, it was decided to do the survey electronically to avoid human error in handling the data as much as possible and to recruit a large enough pool of respondents.

Participants

A convenience sampling strategy was employed to obtain data ($N = 212$) to investigate the relationship between personality, coping styles and self-compassion. The convenience sampling took place mainly through social media, SONA and relatives and acquaintances of the researchers who were asked if they were willing to participate in the research. The majority of the participants were single (51%) German speaking (77%), females (73%) with some kind of job (side-job, part-time or full-time) (62%) of which most had finished higher secondary education (79%).

Table 1

Characteristics of the participants (N = 212)

	Category	Frequency	%
Gender	Male	57	26.9
	Female	155	73.1
Age (years)	18 to 29	196	92.5
	30 to 39	10	4.7
	40 to 76	6	2.8
Home language	Dutch	28	13.2
	German	163	76.9
	Other	21	9.9
Qualifications	Primary school	1	0.5
	Vocational education	1	0.5
	Secondary education	5	2.3
	Higher secondary education	167	78.8
	Completed apprenticeship	5	2.3
	Bachelor's degree	22	10.4
	Master's degree	10	4.7
	Doctorate degree	1	0.5
Employment status	Unemployed	81	38.2
	Side-job	90	42.5
	Part-time job	7	3.3
	Full-time job	34	16.0
Marital status	Married/registered partnership	9	4.2
	With partner	93	43.9
	Single	108	50.9
	Divorced	2	1.0

Measuring instruments

A questionnaire was employed to determine the relationship between neuroticism, coping styles and self-compassion. These three constructs were measured amongst other scales that are not related to this research.

Neuroticism was measured through 8 items derived from the neuroticism subscale of the Big Five Inventory (BFI) developed by John and Srivastava (1999). The BFI measures the neuroticism trait through a five-point-Likert-type scale ranging from 1 (Disagree strongly) to 5 (Agree strongly). An example of one such question: "I see myself as someone who worries

a lot.” According to John and Srivastava (1999) the internal consistency reliabilities for all scales from the English version of the BFI scales were between 0.75 and 0.90. The Dutch version of the neuroticism subscale of the BFI has good reliability too for the Dutch population, namely 0.86 (Denissen, Geenen, Van Aken, Gosling, & Potter, 2008). Self-measured reliability of the neuroticism scale was 0.84 in the used population. The scale score were calculated by using the means of the 8 items and creating a mean Neuroticism score.

Self-Compassion was measured through the Self-Compassion Scale (SCS) developed by Neff (2003b) and consists of 26 items. The SCS consists of three subscales, namely self-kindness, common humanity and mindfulness. All questions in the SCS are of a five-point-Likert-type. Responses options ranged from 1 (Almost never) to 5 (Almost always). An example of a self-kindness question from this scale would be: “I’m disapproving and judgemental about my own flaws and inadequacies,” (negatively formulated). “When I’m down and out, I remind myself that there are lots of other people in the world feeling like I am,” is an example of a question measuring the subscale common humanity. An example of a question measuring mindfulness is “When something painful happens I try to take a balanced view of the situation.” Neff (2003b) shows that both validity and reliability of the Self-Compassion Scale are high. Internal consistency reliability of all subscales of the SCS range between 0.75 and 0.81, which confirms the high reliability of the scale. A self-measured reliability of 0.92 was found in the population researched. The scale score were calculated by using the means of the 26 items and creating a mean Self-Compassion score.

Positive and Negative Coping Styles were measured through the Cognitive Emotion Regulation Questionnaire (CERQ) developed by Garnefski et al (2002). The CERQ measures nine different cognitive emotional regulation strategies through 36 questions. These were clustered into two broad categories: Positive Coping Styles (*acceptance, positive refocusing, refocus on planning, positive reappraisal, putting into perspective*) and Negative Coping

Styles (*self-blame, rumination or focus on thoughts, catastrophizing, other-blame*). Every subscale is a manner of coping with stress. An example of a question that measures positive coping styles: “I think of nicer things than what I have experienced.” An example of a question that measures negative coping styles: “I continually think how horrible the situation has been.” Every question is scored using a five-point-Likert-type scale with responses varying from 1 [(Almost) never] to 5 [(Almost) always]. Garnefski and Kraaij (2007) found good factorial validity and high reliability (Cronbach’s alphas for the subscales ranged from 0.75 to 0.87). Self-measured reliability of the positive coping styles and the negative coping styles were 0.86 and 0.82, respectively. The mean scores of *acceptance, positive refocusing, refocus on planning, positive reappraisal* and *putting into perspective* were added up and divided by five to create the mean of the broader category of positive coping styles. The sum of the mean scores of *self-blame, rumination or focus on thoughts, catastrophizing* and *other-blame* were divided by four to create the mean of the broader category of negative coping styles.

Procedure

The researcher obtained ethical clearance from the Ethics Committee of the University of Twente. The questionnaire was administered online in English via qualtrics.com. The link of the questionnaire was made accessible through face to face contact, social media and SONA. The questionnaire opened with a page explaining the purpose of the research. Furthermore, confidentiality and anonymity were emphasised to assure the respondents. Participants had the option to withdraw from the research at any time during the filling in of the questionnaire, as it was on a voluntary basis, and data of those who did was removed from the study. Participants completed the online questionnaire from the end of March until mid-April 2017. Responses to the questionnaire were captured in an SPSS data set for analysis. The

instruments used were comprised of a larger study that contained instruments for measuring self-compassion, job satisfaction, work stress, self-esteem, narcissism and wellbeing.

Analysis

Data was processed with SPSS v 24 (IBM, 2017). First, descriptive statistics (Means/ SD / Skewness / Kurtosis / Alphas) were computed to determine the distribution of the data.

Second Pearson correlations were used to determine relationships. Effect sizes for the Pearson correlations were set at 0.3 for medium-, 0.5 for large effects and statistical significance was set at $p = 0.05$. Finally, three simple regressions were performed with neuroticism as independent variable and positive and negative coping styles and self-compassion respectively as dependent variables.

A moderation analysis was conducted on neuroticism as predictor of self-compassion in accordance with the method described by Baron and Kenny (1986). As this research is aimed at understanding whether positive and negative coping styles in any way influence the strength of the relationship between neuroticism and self-compassion yet we are not looking to understand what accounts for this relationship, it was deemed best to use a moderation analysis over a mediation analysis as fits with the view of Baron and Kenny (1986). The moderators that were used were both positive and negative coping styles of the respondents. To do this analysis, first the scores on positive coping styles, negative coping styles and neuroticism were centralised (the means for the variables were subtracted from the individual scores). Then the centralised neuroticism scale was multiplied by the centralised positive and negative coping styles separately. Lastly, two regressions were employed. The first regression contained the centralised neuroticism scale, the centralised positive coping styles scale and the multiplication of these two as independent variables and the scores on the Self-Compassion Scale as dependent variable. The second regression contained the centralised neuroticism

scale, the centralised negative coping styles scale and the multiplication of these two as independent variables and the scores on the Self-Compassion Scale as dependent variable.

Results

This results section will contain descriptive statistics and correlations, multiple regressions and a moderation analyses of the aforementioned variables. Multiple regressions were put together in a single table, just as descriptive statistics and correlations were put together. Moderation analyses will be presented separately.

Descriptive statistics and correlations

Many of the Skewness and Kurtosis values did not fit in the acceptable limits of ± 2 as prescribed by Gravetter and Wallnau (2014). Therefore, a common technique was used, where non-normal distributions are transformed into a normal distribution by taking the log of the data. After this technique was used, all values for every scale were between the acceptable limits for Skewness and Kurtosis. Table 2 shows the transformed Skewness and Kurtosis and furthermore shows that the Pearson correlations indicated relationships between most of the constructs, and that all instruments proved to be reliable in this context.

Table 2

Descriptive statistics personality, coping styles and self-compassion

	Mean	SD	Skewness	Kurtosis	α	1	2	3
Neuroticism	2.62	.152	-0.946	0.867	.838	-	-	-
Positive coping styles	3.20	.088	-0.586	0.514	.875	-.450*	-	-
Negative coping styles	2.54	.095	0.083	-0.325	.823	.495*	-.098	-
Self-compassion	2.56	.116	-0.639	0.909	.924	-.734*	.612*	-.491*

Note: * $p < 0.001$

The Pearson correlations showed a moderate effect size for neuroticism and positive coping styles, neuroticism and negative coping styles and for self-compassion and negative coping styles. Large effect sizes can be found for self-compassion and neuroticism and for self-

compassion and positive coping styles. The correlation between positive coping styles and negative coping styles was non-significant.

Simple regressions

Three simple regression analyses were employed to ascertain the predictive value of the personality trait neuroticism on positive coping styles, negative coping styles and self-compassion. All observed models were significant ($[F_{(1,210)} = 43.251; p < 0.001]$, $[F_{(1,210)} = 68.754; p < 0.001]$ and $[F_{(1,210)} = 180.080; p < 0.001]$, and adjusted R^2 of 0.171, 0.243 and 0.459, respectively).

Table 3

Results simple regressions of coping styles and self-compassion with neuroticism as independent variable

Subscale	B	Std. Error	β	t	p
Positive coping styles	-.239	.036	-.413	-6.577	.000
Negative coping styles	.309	.037	.497	8.292	.000
Self-compassion	-.519	.039	.679	-13.419	.000

The beta values in Table 3 show that neuroticism contributes the greatest to the variance of self-compassion and the least to the variance of positive coping styles. All relationships with neuroticism as independent variable are significant (as visible in Table 3).

Moderation analyses

Two linear regressions were employed using firstly the interaction between neuroticism and positive coping styles and secondly the interaction between neuroticism and negative coping styles. The first moderation analyses showed no significant moderation effect from positive coping styles. Table 4 shows the results of the moderation analysis with positive coping styles as moderator.

Table 4

Results from regression analysis showing no moderating effect of positive coping styles (PCS) on the relationship between neuroticism (Neu) and self-compassion

Subscale	B	Std. Error	β	t	p	F	R ²	ΔR^2
-	-	-	-	-	-	101.824*	.595	.589
Constant	.398	.006	-	70.277	.000	-	-	-
PCS	-.412	.038	-.540	-10.843	.000	-	-	-
Neu	.469	.069	.355	6.839	.000	-	-	-
PCS x Neu	.847	.447	.090	1.895	.059	-	-	-

Note: *p < 0.001

The second moderation analysis did show a significant moderation effect from negative coping styles on the relationship between neuroticism and self-compassion. Table 5 shows the results of the moderation analysis with negative coping styles as moderator.

Table 5

Results from regression analysis showing no moderating effect of negative coping styles (NCS) on the relationship between neuroticism (Neu) and self-compassion

Subscale	B	Std. Error	β	t	p	F	R ²	ΔR^2
-	-	-	-	-	-	70.911*	.506	.498
Constant	.399	.006	-	64.257	.000	-	-	-
NCS	-.477	.046	-.625	-10.410	.000	-	-	-
Neu	-.235	.069	-.191	-3.382	.001	-	-	-
NCS x Neu	-.828	.367	-.118	-2.252	.025	-	-	-

Note: *p < 0.001

The unstandardized simple slope for the interaction effect of neuroticism and negative coping styles was -.83.

Figure 2 shows the interaction effect of neuroticism and negative coping styles.

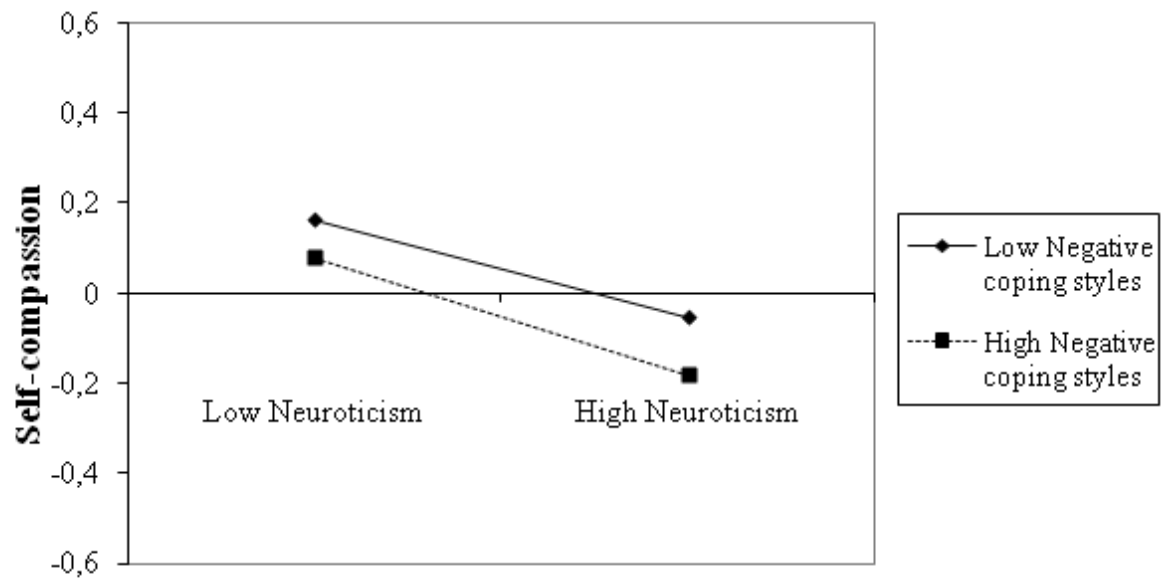


Figure 2

Interaction effect neuroticism and negative coping styles on self-compassion

In Figure 2 it is seen that people with high scores on neuroticism and low scores on negative coping styles score significantly higher on self-compassion than people with high scores on negative coping styles. This difference in scores on self-compassion between low and high scores on negative coping styles is significantly smaller in people with low scores of neuroticism.

Study Hypotheses

As can be concluded by the results, hypotheses 1a, 1b and 2b were accepted. Hypothesis 2a could not be accepted because there was no significant proof of positive coping styles having a moderating effect on the relationship between neuroticism and self-compassion.

Discussion

The aim of this study was to investigate the relationship between neuroticism, coping styles and self-compassion. The results confirmed the relationship between neuroticism and self-compassion. The results also provided support for the fact that neuroticism has a negative relationship with positive coping styles and a positive relationship with negative coping styles. This means that people who score high on neuroticism tend to score high on negative coping styles (*self-blame, rumination or focus on thoughts, catastrophizing and other-blame*) and low on positive coping styles (*acceptance, positive refocusing, refocus on planning, positive reappraisal and putting into perspective*) and self-compassion. However, only high amounts of negative coping styles moderated the relationship between neuroticism and self-compassion. Positive coping styles did not have any significant moderating effect on the relationship between neuroticism and self-compassion. This means that it doesn't matter whether a person with high neuroticism scores uses few or many positive coping styles, because his self-compassion scores will still be low. A person who scores high on neuroticism and uses many negative coping styles is however significantly less self-compassionate than a person who scores high on neuroticism but uses fewer negative coping styles.

The relationship between neuroticism and coping styles found in this study implies that neurotic people tend to use less positive and more negative coping styles. The strength of the correlations was however weaker than reported by Haren and Mitchell (2003). This might be due to the fact that Haren and Mitchell (2003) used a different type of measurement.

However, the results are in accordance with results that were found regarding the relationship between neuroticism and positive and negative emotion focused coping styles and problem focused coping styles as in research by Besharat (2007), though the constructs were formulated differently. Another similarity can be found with Connor-Smith and Flachsbart (2007), who also found that neuroticism mostly strongly relates to problematic coping styles.

However, Connor-Smith and Flachsbart (2007) did not report any significant results with positive coping styles.

Findings revealed a negative relationship between neuroticism and self-compassion as is in accordance with Neff et al. (2007). The results however make this negative relationship clearer as the sample showed a stronger negative relationship than found by Neff and her colleagues in their sample. This means that there is reason to believe that people who score high on neuroticism have the tendency to show less self-compassion.

It's hard to relate the moderating effect that negative coping styles have on the relationship between neuroticism and self-compassion to previous research as no research has been done on this subject before. Therefore, it is up to the researcher to interpret the results that were found. From the results it seems that there is indeed a relationship between neuroticism and self-compassion and this relationship is influenced by negative coping styles, but not by positive coping styles. This means that therapists might do better by not focusing on stimulating positive coping styles in neurotic people, but on managing negative coping styles.

Limitations of the study

While conducting the research, some limitations became clear. First of all, the research employs a cross-sectional design as opposed to a longitudinal design. The downside of using a cross-sectional design is that it is not clear whether the model that emerges from the results is stable over time. What's even more important is the fact that this design also does not allow for any conclusions on causal relationships to be drawn. Secondly, the coping styles were categorised into positive or negative coping styles. The categorising into two main categories instead of nine subscales causes it to be impossible to say anything about individual coping styles. It is for example possible that the moderating effect might have been influenced by the categorising, since it is not clear which positive coping styles had which effect on the relationship between neuroticism and self-compassion (the same goes for the negative coping

styles). For example, if one subscale shows absolutely no signs of having an effect on the relationship between neuroticism and self-compassion where the others of that category do, this might cause the entire category to lack any moderating effect on the relationship. The categorising also obscures which positive coping styles might actually moderate the relationship between neuroticism and self-compassion where the construct of positive coping styles did not have a moderating effect. It might for example be the case that positive coping style *acceptance* actually does moderate the relationship between neuroticism and self-compassion and therapists would do well to stimulate this positive coping style, even though positive coping styles in general do not seem to work.

Further research

Future research efforts should be aimed at finding out whether this relationship between neuroticism and self-compassion is stable over time and whether the moderating effect of negative coping styles also stay stable over time. This could be done using a longitudinal research design. This kind of design would also allow conclusions about causal relationships to be drawn, which is of importance too.

Furthermore, research is needed by using an experimental approach with a control group to find out whether managing negative coping styles in people that score high on neuroticism can actually increase their levels of self-compassion. Such a research could also find whether positive coping styles would also show no moderating effect in an experimental setting.

Lastly, better understanding the moderating effects of individual coping styles on the relationship between neuroticism and self-compassion is needed. This research could be aimed at better understanding the details of this moderating effect by researching the individual coping styles as possible moderators, but also further research should be aimed at understanding this model in a wider context. It might for example be beneficial to understand how this model fits into the bigger picture of achieving wellbeing through self-compassion,

on which many researchers are working right now (Hall, et al., 2013; Akin, 2014; Soysa & Wilcomb, 2015).

Practical implications

This study showed that relationships between neuroticism, coping styles and self-compassion do exist. The fact that negative coping styles did have a moderating effect on the relationship between neuroticism and self-compassion whereas positive coping styles did not, is very interesting for therapists who try to increase self-compassion (and possibly wellbeing) in patients and clients through coping strategies. Since positive coping styles do not moderate the relationship, they should be less emphasised in therapy. This seems to make sense, since neuroticism is the tendency to experience negative emotions and be less emotionally stable. Telling someone who is in a dark place and is experiencing anxiety, anger and depression that (s)he should accept the situation or put things into perspective seems unhelpful, since the person will feel like (s)he is not understood or listened to. Therefore, it seems credible that using positive coping styles on patients and clients that score high on neuroticism will not have any effect at all. Still, positive coping is moderately strongly correlated to self-compassion, thus improvement of positive coping might lead to higher self-compassion in general, which could be useful for therapy not specifically aimed at neurotic people. It is advised that therapists focus treatment more on managing negative coping styles especially for people with high neuroticism, for this research shows that people with high scores on neuroticism tend to show more negative coping styles such as blaming themselves. It would be profitable to focus on making these people obsess less on blaming themselves and ruminate on bad thoughts or catastrophizing things. This could lead to minimizing the negative effects that neuroticism can have on people. This might make those people more compassionate towards the self.

Conclusion

The study confirmed the negative relationship between neuroticism and self-compassion, although it is not clear if this is stable over time. It is also not clear how individual coping styles influence the strength of the negative relationship between neuroticism and self-compassion. However, it has become clear that the strength of this relationship is influenced by negative coping styles (*self-blame, rumination or focus on thoughts, catastrophizing and other-blame*), yet not by positive coping styles. Therefore, it is more useful to treat the negative effects of neuroticism by managing the bad than simply forcing the good.

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