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Does personal distress enhance empathic interaction or block it?

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ABSTRACT

Personal distress, an index of emotional empathy, is a tendency to feel pain when exposed to the misfortune or suffering of others. However, it is doubtful whether measuring personal distress tendencies with a self-reporting scale is appropriate for measuring other-orienting empathic tendencies. Batson (1991) argued that personal distress had an aversive self-focused attribute; therefore, in this study, we administered a series of correlational studies to identify the nature of personal distress more clearly. In Study 1, using data from 169 online university students, we found that personal distress was positively related to self-focused ruminative coping and dysfunctional self-focus. In Study 2, using data from 432 participants, we found that personal distress was highly correlated with neuroticism and negatively correlated with extroversion, agreeableness, conscientiousness, and openness to experience. However, other measures of emotional empathy—empathic concern and empathic responding—showed an opposite correlation pattern. In Study 3, using data from 145 participants, we found that personal distress was positively correlated with depression, self-criticism, and negative self-concept. However, empathic concern and empathic responding showed the opposite pattern again. These results suggest that personal distress represents the negative side of emotional empathy and could block empathic interaction instead of enhancing it.

1. Introduction

Empathy has been defined as the ability to understand others' emotion and/or perspectives and, often, to resonate with others' emotional states (Eisenberg, Eggum, & Giunta, 2010). Traditionally, empathy is thought to be composed of both cognitive and emotional factors (Davis, 1980). That is, while cognitive empathy focuses on others' perspectives (Mead, 1934; Piaget, 1932), emotional empathy focuses on experiencing others' feelings vicariously and responding appropriately (Mehrabian & Epstein, 1972; Stotland, 1969). Researchers have stated that the emotional aspect is essential in empathy (Eisenberg et al., 2010; Spreng, McKinnon, Mar, & Levine, 2009). Cognitive empathy can be separated from emotional empathy since emotional vicarious experiences or responsiveness is possible without understanding why others feel such feelings. In other words, it is possible to feel and react to others even though we do not know why.

When studying empathy, we also need to distinguish trait empathy and state empathy. Trait empathy studies tend to focus on individual differences in empathic tendencies toward others. At this point, researchers often measure individual differences by separating cognitive and emotional empathy. Concerning cognitive empathy, it is common to evaluate perspective taking ability. However, when measuring the emotional aspect of empathy, the situation becomes more complicated. For example, when making the Interpersonal Reactivity Index (IRI), Davis (1980) has proposed two emotion-related concepts of personal distress and empathic concern. While personal distress and empathic concern are both considered to represent emotional aspects of empathy, the meaning of the two concepts differs in detail. Personal distress means a tendency to feel pain or distress when seeing unhappy people. On the other hand, empathic concern is not only a vicarious experience of other people's feelings, but also a tendency to help and care for them. To explain the differences further, empathic concern is the willingness to care for and care about other people's grief, while personal distress is an uncomfortable or uneasy feeling about others' grief. Emphasizing those differences, some researchers do not consider empathic concern as a measure of emotional empathy (Decety & Yoder, 2016; Jordan, Amir, & Bloom, 2016). However, in this study, empathic concern was considered as emotional empathy, which followed Davis (1980)'s original proposal.

Other than these two variables, there could be another type of emotional empathy variable. For example, Spreng et al. (2009) mentioned about Empathic Responding, which refers to the tendency to respond to the emotions of others. Jordan et al. (2016) also attempted to measure emotional empathy with a new scale (not Davis' IRI). These novel attempts could be considered as overcoming the limitation of existing IRI subscales—empathic concern and personal distress—which

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do not accurately reflect emotional empathy. In this study, empathic concern and personal distress by Davis (1980) and empathic responding by Spreng et al. (2009) were used to measure emotional empathy. These three variables reflect emotional aspects of empathy; however, they are slightly different concerning details that researchers emphasize. Therefore, depending on what variable is selected, the interpretation of the results of empathy-related studies may be altered in diverse ways. For this reason, a chief focus of this study was the comparison between personal distress, empathic concern, and empathic responding.

We particularly focused on the personal distress variable for two reasons. First, it is related to the problem of measuring empathy. Davis (1980) included personal distress and empathic concern in the same emotional aspects of empathy while developing the IRI. However, many studies showed that personal distress and empathic concern are either irrelevant or sometimes negatively correlated each other. Eisenberg et al. (2010) distinguished between empathic concern (or sympathy) and personal distress; Empathic concern is positively correlated with pro-social behavior; however, personal distress is often not. The same is true of aggression; that is, empathic concern was negatively correlated with aggression (Eisenberg et al., 2010) while personal distress is positively correlated with aggression (Cohen & Strayer, 1996; Kim & Han, 2016).

The second reason to focus on personal distress is more fundamental. Since the IRI is widely used as a tool to measure empathy, personal distress is perceived as an emotional aspect of empathy. Therefore, high personal distress scores are often interpreted as high emotional empathy scores. However, is it empathic to become uncomfortable or uneasy when seeing others who are suffering? Perhaps it is also a question about the conceptualization of empathy. According to Batson (1991), personal distress may be a kind of follow-up reaction to empathy; however, it is difficult to interpret it as empathic tendency or empathic ability. Empathy is generally a concept of other-oriented attributes; however, personal distress is more self-focused (Batson, 1991; Eisenberg et al., 2010). Therefore, caution is needed in using personal distress as a measure of empathy.

There has already been some dispute about how appropriate it is to use personal distress as a measure of empathy. According to Alterman, McDermott, Cacciola, and Rutherford (2003), personal distress may be closer to neurotic tendencies and may not properly measure emotional empathy. They mentioned that only perspective taking and empathic concern among IRI subscales include the key elements of empathy. Baron-Cohen and Wheelwright (2004) noted that the Fantasy and personal distress subscales among IRI do not reflect empathy in an appropriate manner. Batson (1991) also claimed that personal distress is a self-focused and aversive emotional response. Decety and Lamm (2006) have argued that empathy and personal distress could be a separate concept. They explained that sharing other's emotion while keeping one's own boundary between oneself and others are essential to empathy. However, personal distress was a kind of over-arousal that resulted from the absence of boundaries between oneself and others.

We sought to verify Batson's (1991) opinion that personal distress is a self-focused variable. Although there has been much controversy over the characteristics of personal distress, no study has identified the characteristics of personal distress through data on the correlation between personal distress and self-focus. Decety and Lamm (2006) attempted a neurological explanation; however, they did not confirm it through correlational data. Therefore, we conducted a series of correlation studies by using self-reported measures. Study 1 examined the correlation between empathy and self-focus related variables, Study 2 examined the correlation between the Big 5 personality traits and empathy, and Study 3 examined the correlation between empathy and depression.

2. Study 1

Study 1 examined the correlation between IRI sub-dimensions including personal distress and the variables relating to self-focus. Davis' (1980) IRI is a widely used tool to measure temperamental empathy. Davis (1980) produced the IRI to measure both cognitive and emotional empathy. Among the four sub-dimensions of the IRI, perspective taking (IRI-PT) and fantasy (IRI-FT) measure cognitive aspects while empathic concern (IRI-EC) and personal distress (IRI-PD) measure emotional aspects.

Concerning self-focus, many studies about self-focus are rooted in the concept of self-consciousness (Fenigstein, Scheier, & Buss, 1975). Most researchers are interested in the increased self-consciousness paradox. Often it is easy to think that focusing on the inner side could be helpful for internal awareness or emotional processing; however, excessive self-consciousness leads to dysfunction, which interferes with awareness (Greenberg & Pyszczynski, 1986; Ingram, 1990; Pyszczynski & Greenberg, 1987; Smith & Greenberg, 1981; Trapnell & Campbell, 1999). Nolen-Hoeksema (1991) explained rumination of depressed people as a sort of dysfunctional self-focused coping, and demonstrated through numerous studies that rumination contributes to maintaining and strengthening depression (Lyubomirsky & Nolen-Hoeksema, 1993, 1995; Nolen-Hoeksema, 1991; Nolen-Hoeksema & Morrow, 1991). Rumination is also compared with reflection. Trapnell and Campbell (1999) found that adaptive reflection was related to intellectual curiosity; however, rumination, as a negative type of self-focus, was related to neuroticism, depression, and anxiety. Trapnell and Campbell (1999) explained that ruminative coping originated from the motivation to avoid negative emotion.

We can infer from Batson's (1991) and Decety and Lamm's (2006) explanation that someone who has strong personal distress will also have a strong motivation to avoid negative emotions. Therefore, we predicted a positive relationship between personal distress and ruminative coping. In addition, strong personal distress can also result in dysfunctional consequences as people excessively focus on themselves in everyday emotional situations. Ingram (1990) mentioned that self-focus would become dysfunctional when it is excessive, sustained, and inflexible. Kim and Lee (2012) developed a self-reporting questionnaire, the Dysfunctional Self-focus Attributes Scale (DSAS), which measures the degree of three dysfunctions of increased self-focus: lower focus control, lower clear awareness, and negatively biased focus. Consequently, we predicted that personal distress would be positively correlated with dysfunctional self-focus.

2.1. Method

2.1.1. Participants

Among students in a “Introduction to Psychology” course at one online university in Seoul, South Korea, 169 voluntarily completed the questionnaires. Of the 169 participants, there were 48 men (28.4%) and 121 women (71.6%). The mean age was 41.26 years (SD = 9.57) and ages ranged from 18 to 66 years.

2.1.2. Instruments

2.1.2.1. Interpersonal reactivity index (IRI). In this study, Davis' (1980) IRI was used to measure the tendency of temperamental empathy. Davis (1980) devised four sub-dimensions of IRI to construct the scale: IRI-PT, IRI-FT, IRI-EC, and IRI-PD. Sample items are, “I sometimes find it difficult to see things from the **other guy's** point of view” (IRI-PT); “I daydream and fantasize, with some regularity, about things that might happen to me” (IRI-FT); “I am often quite touched by things that I see happen” (IRI-EC); and “In emergency situations, I feel apprehensive and ill-at-ease” (IRI-PD). The IRI is a 5-point Likert scale, consisting of 7 questions for each sub-dimension (28 questions in total). Kang et al. (2009) reported that the internal consistency of Korean version of IRI was 0.80 and the test-retest reliability was 0.76. In this study, the

internal consistencies (α) were = 0.72, 0.79, 0.69 and 0.73 respectively.

2.1.2.2. Rumination-reflection questionnaire (RRQ). We used the RRQ to measure reflection and ruminative coping. The RRQ was developed by Trapnell and Campbell (1999) and comprises two types of self-consciousness according to motivation inherent in consciousness. The RRQ consists of 24 items and each rumination and reflection subscale consists of 12 questions. According to Trapnell and Campbell (1999), the reflection subscale was related to openness (among the Big 5 personality factors), and the rumination subscale was related to neuroticism. In this study, the internal consistency was 0.90 in reflection subscale, and 0.86 in rumination subscale.

2.1.2.3. Dysfunctional self-focus attributes scale (DSAS). We used the DSAS developed by Kim and Lee (2012) to determine the degree of dysfunctional self-focus. The DSAS is a 5-point Likert-type scale with 15 items, and each of three (low focus control, LFC; low clear awareness, LCA; negatively biased focus, NBF) subscales consist of 5 items each. Higher scores indicated greater dysfunction of increased self-focus. Kim and Lee (2012) reported the overall internal consistency as 0.91 (LFC: 0.80, LCA: 0.87, NBF: 0.90). This study focused on dysfunction of self-focus and therefore examined the total score. The internal consistency of whole scale was 0.92.

2.1.3. Data collection and analyses

We posted a set of questionnaires through a student bulletin board at an online university. One-hundred sixty-nine students voluntarily downloaded and completed the questionnaire and sent it back to a researcher's personal email. Data analyses were conducted using IBM SPSS Statistics 20.0. Means, standard deviations, and internal consistency were calculated, as was a correlation analyses.

2.2. Results and discussion

Table 1 shows the means, standard deviations, and the correlations among IRI- PT, IRI-FT, IRI-EC, IRI-PD, RRQ-rumination, RRQ-reflection, and dysfunctional self-focus. IRI-PT showed no significant relationship with rumination, a positive relationship with reflection, and a negative relationship with dysfunctional self-focus. IRI-FT showed a highly positive relationship with rumination and reflection, but no significant relationship with dysfunctional self-focus. IRI-EC showed a positive relationship with rumination and reflection, but no significant relationship with dysfunctional self-focus. IRI-PD showed a significant relationship with rumination and dysfunctional self-focus, but no significant relationship with reflection.

In support of Batson (1991), personal distress was positively correlated with rumination and dysfunctional self-focus. Because personal distress has a detrimental self-focus attribute, persons with this tendency could show aversive behavioral responses or use ruminative coping, not only when exposed to the suffering of others, but also when alone or in no-interaction situations.

Furthermore, the result that empathic concern did not show a significant correlation with dysfunctional self-focus also supports Batson (1991). In this regard, it is notable that Batson (1991) explained the differences between empathic concern and personal distress. He argued that both empathic concern and personal distress are the result of empathy; however, on the other hand, empathic concern is derived from altruistic interest to care for others, whereas personal distress is related to selfish motivation to escape from one's own negative feelings. Therefore, if personal distress and empathic concern are tied together in a similar concept of emotional empathy, the likelihood of misinterpretation or distortion of study results would arise.

3. Study 2

Study 1 confirmed that personal distress was a self-focused, self-centered, and dysfunctional variable. In Study 2, the theory of Big 5 personality traits was introduced to explain the characteristics of personal distress. Costa and McCrae (1992) set five dimensions of neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience as the basic dimensions of personality. The Five Factor Model is a paradigm firmly established in personality trait studies and its usefulness has been validated in many countries (McCrae & Costa, 1997). Many studies have shown that Five Factor Model was fit for predicting many variables such as the relationship among family, friends, and lovers as well as personal happiness, physical and mental health, spirituality, identity, job choice, and job satisfaction (Ozer & Benet-Martinez, 2005). Nevertheless, the relationship between Big 5 personality traits and empathy has not been thoroughly explained (Corte et al., 2007).

Still, there are some studies that have tested the relationship between personal distress and the Big 5 personality traits. Shiner and Caspi (2003) argued that personal distress would be positively correlated with neuroticism after reviewing previous studies or opinions about the relationship between personal distress and Big 5 personality traits. Alterman et al. (2003) also found that personal distress was more likely to be neurotic. Although there is no specific theory about the relationship with other dimensions besides the neuroticism dimension, Del Barrio, Aluja, and Garcia (2004) believed that agreeableness is related to interpersonal behavior; therefore, it seemed to be related to empathy. However, since Del Barrio et al. (2004) did not have direct interest on personal distress variable, we verified this in this study.

Examining other personality dimensions besides neuroticism and agreeableness, such as how extraversion relates to empathy, is rarer. However, it can be assumed that extroversion and empathy will have a positive correlation because extraversion and empathy basically assume that one is interested in others. In addition, it can be assumed that the same logic is applied to show a negative correlation between extraversion and personal distress because personal distress is more self-focused. Concerning openness, more open people would be curious, like new experiences, and show an open attitude toward various values and

Table 1
Means, standard deviations, and correlations between study variables (N = 169).

Variables	1	2	3	4	5	6	7
1. Perspective taking							
2. Fantasy	0.322**						
3. Empathic concern	0.343**	0.466**					
4. Personal distress	− 0.149	0.212**	0.275**				
5. Rumination	− 0.032	0.442**	0.195*	0.445**			
6. Reflection	0.400**	0.590**	0.291**	0.138	0.381**		
7. Dysfunctional self-focus	− 0.461**	0.025	− 0.141	0.344**	0.580**	− 0.153*	
M(*SD*)	25.33 (4.29)	24.99 (5.29)	26.78 (4.19)	21.47 (4.91)	37.42 (9.65)	41.01 (8.61)	32.92 (11.57)

* $p < 0.05$.
** $p < 0.01$.

emotions; therefore, openness is likely to exhibit a positive relationship with empathy. Likewise, personal distress should be negatively correlated with openness. Concerning conscientiousness, some argue that conscientiousness may be related to empathy (Del Barrio et al., 2004), while others claim that the relevance between two variables is unclear (Corte et al., 2007).

In this study, we clarified the characteristics of personal distress by examining its correlation with the Big 5 personality traits and investigating what Big 5 dimension best predicts personal distress. To compare the characteristics of personal distress and other emotional-empathy-related variables, analyses was conducted regarding empathic concern and empathic responding variables, which also represent emotional aspects of empathy.

3.1. Method

3.1.1. Participants

Online college students ($N = 432$) who were taking an "Introduction to Counseling" course participated in this study. Among them, there were 180 men (41.7%) and 252 women (58.3%). The mean age was 34.47 years (SD = 10.22), which ranged from 19 to 67 years.

3.1.2. Instruments

3.1.2.1. Interpersonal reactivity index (IRI). In this study, Davis' (1980) IRI-PD and IRI-EC were used. The internal consistency was 0.75 for personal distress and 0.62 for empathic concern.

3.1.2.2. Toronto empathy questionnaire (TEQ). The TEQ by Spreng et al. (2009) was used to measure empathic responding. Spreng et al. (2009) attempted to find a single common factor by factor analysis of 142 items of existing empathy scales. Consequently, they developed a TEQ composed of 16 items. Sample items of TEQ are, "I tend to tune in other's mood" and "When someone feel excited, I tend to get excited too." The TEQ is measured with a 5-point Likert scale ranging from "*not at all*" (0 points) to "*always*" (4 points). Higher scores indicate greater empathic responding. Spreng et al. (2009) reported an internal consistency of 0.85, and Kim and Han (2016) reported a test-retest reliability of 0.79 and an internal consistency of 0.77 for the Korean version of the TEQ. The internal consistency in this study was 0.81.

3.1.2.3. International personality item pool (IPIP). To measure the Big 5 personality traits, Goldberg (1999) was used—as was the Korean version that was developed and validated by Yoo, Lee, and Ashton (2004). The five factors measured by IPIP are neuroticism, extraversion, agreeableness, conscientiousness, and openness to experience. Responses were made using a 5-point Likert scale ranging from "*not at all*" to "*strongly agree*." Each factor consists of 10 items (50 items total). The internal consistency in this study was 0.88 for neuroticism, 0.89 for extraversion, 0.84 for agreeableness, 0.81 for conscientiousness, and 0.77 for openness to experience.

3.1.3. Data collection and analyses

The same procedures as in Study 1 were used for data collection. Data analyses were conducted using SPSS 20.0 software. First, means and standard deviations of each scale were calculated. Next, a correlation analysis was conducted to examine the correlation between empathic ability and the Big 5 personality traits. Lastly, a regression analysis was conducted to clarify how much influence the Big 5 personality traits as a predictor have on empathic ability. At this time, the variables were entered by the enter method without considering the input order of prediction variables. The regression analysis was performed for IRI-PD, IRI-EC, and empathic responding (TEQ).

3.2. Results and discussion

Table 2 shows the means, standard deviations, and correlations between IRI-PD, IRI-EC, empathic responding as measured by the TEQ, and the Big 5 personality traits as measured by the IPIP. IRI-PD was highly positively correlated with neuroticism and negatively correlated with the other four dimensions. Contrastingly, IRI-EC and empathic responding were negatively correlated with neuroticism and positively correlated with the other four dimensions.

These results are consistent with the assertion of Shiner and Caspi (2003) and Alterman et al. (2003) that personal distress is positively correlated with neuroticism. Clearly, people with a high tendency of personal distress are likely to have prominent levels of negative emotions such as anxiety, tension, depression, and fear. Not only do they feel uncomfortable when they see others in trouble, they would experience discomfort or anxiety in no-interaction situations as well. As hypothesized before, personal distress seems to be negatively correlated with openness to experience, extroversion, agreeableness, and conscientiousness because of its dysfunctional self-absorptive properties. Concerning empathic concern and empathic responding, it seems that self-absorption is not relevant, at least compared to personal distress.

In the regression analysis, when setting up Big 5 personality traits as predictive variables and personal distress as the dependent variable, the explanatory power of the whole model ($R^2 = 0.454$) was statistically significant ($F = 70.550$, $p < 0.001$). Standard coefficients of predictive variables showed that all Big 5 personality traits had a significant effect. To examine the results in detail, neuroticism ($\beta = 0.467$) and agreeableness ($\beta = 0.173$) positively influenced personal distress, while extroversion ($\beta = -0.257$), conscientiousness ($\beta = -0.153$) and openness ($\beta = -0.105$) negatively influenced personal distress.

Next, a regression analysis was conducted with Big 5 personality traits as predictive variables and empathic concern as the dependent variable. The explanatory power of the whole model ($R^2 = 0.241$) was statistically significant ($F = 26.976$, $p < 0.001$). Standard coefficients of predictive variables showed that agreeableness ($\beta = 0.501$), neuroticism ($\beta = 0.115$) and conscientiousness ($\beta = 0.106$) positively affected empathic concern and extraversion ($\beta = -0.091$) and openness ($\beta = 0.017$) had no effect on empathic concern.

A final regression analysis was conducted with Big 5 personality traits as predictive variables and empathic responding as the dependent variable. The explanatory power of the whole model ($R^2 = 0.470$) was statistically significant ($F = 75.441$, $p < 0.001$). Standard coefficients of predictive variables showed that agreeableness ($\beta = 0.611$) and extraversion ($\beta = 0.110$) positively affected empathic responding and neuroticism ($\beta = -0.058$), conscientiousness ($\beta = -0.013$), and openness to experience ($\beta = -0.023$) had no effect on empathic responding.

In conclusion, there are similarities and differences between personal distress and the other two variables of emotional empathy. Regarding similarities, agreeableness had a significant influence on empathic concern, empathic responding, and personal distress. In other words, all three variables seem to share the desire to establish a friendly relationship with others. This result is also consistent with the work of Del Barrio et al. (2004), which emphasized the influence of agreeableness.

However, the difference is also noteworthy. Neuroticism was found to have the greatest influence on personal distress; however, for empathic concern and empathic responding, the greatest influencing personality factor was agreeableness. In addition, extroversion had a negative effect on personal distress, but a positive influence on empathic responding. Considering the relationship between extroversion and positive emotions (Rothbart, Ahadi, & Evans, 2000), people with high personal distress are not likely to fully experience positive emotion. In addition, conscientiousness and openness to experience had a negative effect on personal distress. It seems that these results indirectly confirm Batson's (1991) suggestion that personal distress is an aversive and self-focused variable.

Table 2
Means, standard deviations, correlations among study variables (N = 432).

Variables	1	2	3	4	5	6	7	8
1. Personal distress	1							
2. Empathic concern	*0.090*	1						
3. Empathic responding	− 0.140**	0.576**	1					
4. Neuroticism	0.600**	− 0.096*	− 0.344**	1				
5. Extraversion	− 0.485**	0.177**	0.444**	− 0.440**	1			
6. Agreeableness	− 0.280**	0.467**	0.676**	− 0.408**	0.534**	1		
7. Conscientiousness	− 0.400**	0.282**	0.351**	− 0.409**	*0.392***	0.503**	1	
8. Openness	− 0.343**	0.219**	0.328**	− 0.255**	0.525**	0.465**	0.413**	1
M(*SD*)	20.52 (4.75)	26.02 (3.63)	46.37 (7.49)	26.21 (7.26)	33.14 (7.16)	36.02 (5.55)	36.36 (5.82)	33.13 (5.28)

* $p < 0.05$.
** $p < 0.01$.

4. Study 3

As shown in Studies 1 and 2, if personal distress involves increased self-focused and dysfunction, it might have a negative impact on mental health, especially depression. The main characteristic of depression is sadness and rumination over negative aspects. Depressed people cannot avoid their own internal sufferings and show reduced interest and reactivity toward the outside world. In this respect, personal distress is likely to be positively correlated with depression and depression-related variables, which we attempted to verify.

Regarding the relationship between personal distress and depression, O'Conner, Berry, Weiss, and Gilbert (2002) and Ekinci and Ekinci (2016) reported higher personal distress scores in depressive patients than in the healthy controls. Lee (2009a) showed that the personal distress subscale was positively correlated with depression.

On the other hand, Cusi, MacQueen, Spreng, and McKinnon (2011) examined how not only personal distress, but also empathic responding was related to depression. They implemented both the IRI (Davis, 1980) and TEQ (Spreng et al., 2009) with 20 depressed patients and 20 healthy people as a control group. They found that empathic responding (TEQ) and Emotional Concern (IRI-EC) among the patient group were significantly low. Concerning personal distress (IRI-PD), although it was not statistically significant, depressed patients showed a somewhat higher score than did healthy controls. However, since Cusi et al. (2011) targeted a group of depressed patients, the sample size was relatively small. For this reason, this study tried to replicate the same result with a relatively larger sample.

In addition to depression, we also included negative self-concept and self-criticism, which are closely related to depression. Self-criticism refers to a harsh evaluation of one's self (Powers, Zuroff, & Topciu, 2004) and is known to predict negative emotions such as depression and anxiety (Dunkley, Blankstein, & Flett, 1997). Depressed people often have a negative self-concept and feel unable, weak, and bad. This study predicted that personal distress would be positively correlated with depression, self-criticism, and negative self-concept.

4.1. Method

4.1.1. Participants

Online college students (N = 145) who were taking an "Introduction to Psychology" course participated in this study. Among them, there were 34 men (23.3%) and 112 women (76.7%). The mean age was 41.6 years (SD = 9.98) and the age ranged from 19 to 67 years.

4.1.2. Instruments

4.1.2.1. Interpersonal reactivity index (IRI). Davis' (1980) IRI-PD and IRI-EC were used. In this study, the internal consistency was 0.70 for personal distress and 0.66 for empathic concern.

4.1.2.2. Toronto empathy questionnaire (TEQ). The TEQ by Spreng et al. (2009) was used to measure empathic responding. The internal consistency in this study was 0.70.

4.1.2.3. Center for epidemiological studies–depression scale (CED-D). The Korean version of the CES-D was used to measure the degree of depression in the general population. Originally, the CES-D was developed by the American Psychiatric Institute for epidemiological studies of depression in the general population (Radloff, 1977). In Korea, Chon, Choi, and Yang (2001) validated the integrated Korean version of CES-D. The Korean version of the CES-D is a self-reporting questionnaire consisting of 20 items. It is rated from 0 (*extremely rare*) to 3 (*most likely*) for each item according to the frequency experienced during last one week. The internal consistency was 0.91 in Chon et al. (2001) and 0.94 in this study.

4.1.2.4. Self-critical cognition scale (SCCS). To measure self-criticism, we used the SCCS, which was developed by Ishiyama and Munson (1993) and translated by Lee (2009b). It measures negative self-statement, which include negative self-information, failure to deal with negative information, overgeneralization on negative self-information, loss of objective perception, and self-blaming. Originally, the 13-item scale is measured using a 5-point Likert scale, and higher scores reflect more self-critical thinking for self-related information. In Korea, Lee (2009b) adopted a scale of 10 items, which was obtained by subtracting 3 low-loaded items from the original scale. The internal consistency was 0.89 in Ishiyama and Munson (1993) and 0.93 in this study.

4.1.2.5. Self-concept scale. A self-concept scale, which was developed by Lee (1997), is a self-reporting test to evaluate cognitive contents of self-concept. It is composed 30 items, and a 5-point Likert scale is used. Participants were requested to evaluate themselves in 6 sub areas: appearance, morality, personality, family, social relationship, and capability. In the original scale, higher scores are interpreted as more self-positive; however, in this study, we reversed the direction for convenience; therefore, higher scores indicate feeling more self-negative. The internal consistency was. 92 in Lee (1997) and 0.94 in this study.

4.1.3. Data collection and analyses

Data were collected using the same procedures as in Study 1 and 2. Using SPSS 20.0 software, the means and standard deviations of each scale were calculated. Next, a correlation analysis was conducted to examine the relationship between empathic ability and depression, self-blame, and negative self-concept.

4.2. Results and discussion

Table 3 shows the means, standard deviations, and correlations among the variables: personal distress, empathic concern, empathic

Table 3
Means, standard deviations, and correlations among study variables (N = 145).

Variables	1	2	3	4	5	6
1. Personal distress	1					
2. Empathic concern	0.084	1				
3. Empathic responding	− 0.077	0.625**	1			
4. Depression	0.417**	− 0.151	− 0.248**	1		
5. Self-criticism	0.585**	− 0.186*	− 0.341**	0.685**	1	
6. Negative self-concept	0.464**	− 0.361**	− 0.442**	0.635**	0.770**	1
M(*SD*)	21.37 (4.65)	26.88 (3.92)	42.92 (6.45)	18.38 (11.44)	24.78 (9.23)	66.84 (18.14)

* $p < 0.05$.
** $p < 0.01$.

responding, depression, self-criticism, and negative self-concept. Personal distress was positively correlated with depression, self-blame, and negative self-concept. However, empathic concern and responding was negatively correlated with depression, self-blame, and negative self-concept. For further information, the negative correlation between empathic concern and depression was not significant; however, a trend was observed.

These results are consistent with the result of Cusi et al. (2011). Personal distress was a detrimental self-focused attribute, and a person with strong personal distress often has a high self-blaming attitude and a negative self-concept.

5. Comprehensive discussion

Personal distress is the tendency to feel pain when exposed to the misfortune or suffering of others, and is an emotional type of empathy. However, it is doubtful whether the personal distress measured by a self-reporting scale is an appropriate empathic tendency or empathic ability. Batson (1991) argued that personal distress is an aversive, self-focused attribute; therefore, we executed a series of correlation studies to identify the nature of personal distress. Consequently, personal distress was positively correlated with self-focused ruminative strategies and dysfunctions. We also confirmed that personal distress was positively correlated with depression, self-criticism, and negative self-concept. In addition, we examined the influence of personality factors on personal distress by applying the Big 5 personality model. Consequently, neuroticism and agreeableness showed a positive effect while extraversion, conscientiousness, and openness to experience showed negative influences on personal distress. Among these, the impact of neuroticism was the most powerful.

The significance of this study is that we clarified the characteristics of personal distress, which is commonly used as a measure of emotional empathy. Because of this study, it was confirmed that personal distress had a self-focused and dysfunctional property. Personal distress is distinct from other scales used to measure emotional empathy, such as empathic concern or empathic responding. In contrast to personal distress, empathic concern or empathic responding did not have strong self-focused or dysfunctional attributes. To sum up, personal distress seems to be more related to the negative side effects of emotional empathy than empathic concern or empathic responding. As Bloom (2017) noted, empathy is not always valuable. Whether empathy leads to positive outcomes depends on the context. Bloom (2017) said that empathy is biased and innumerate in nature, and sometimes it could lead to biased decision making, burnout, and exhaustion. The current results suggest that personal distress reflects a dark side of emotional empathy. People with high personal distress may have trouble in empathic interactions because of internal distress and exhaustion.

Therefore, this study also suggests that it is necessary to be cautious when using personal distress as a measure of emotional empathy. To measure emotional empathy in the future, Spreng et al. (2009) or Mehrabian's Balanced Emotional Empathy Scale (BEES, 2000) should be used. For researchers who want to use the IRI to measure emotional empathy, we recommend excluding personal distress and using only the empathic concern variable. Since empathic concern and personal distress have differential effects on dysfunctional self-focus and psychopathology, it can seriously distort the interpretation of study results when linking these two variables together. Using the TEQ or BEES would be better because these measures focus on emotional congruence with other's emotional state. There is another choice—the new "Empathy Index" by Jordan et al. (2016). Their index (2016) consists of two dimensions: emotional and behavioral transmission. It distinguishes between empathy and interest in others' welfare, and was devised considering empathy as "feeling what others feel." It follows current trends that distinguish empathy and concern. According to researchers, empathic concern is more like sympathy for others rather than empathy itself (Klimecki, Leiberg, Ricard, & Singer, 2014; Singer & Klimecki, 2014).

Furthermore, for what reason did personal distress become representative of emotional empathy? Our results showed that personal distress is biased and seems to reflect a dark side of emotional empathy. It is not easy to answer this question clearly; however, we can think of some possible explanations. First, there must have been a problem of confusing state and trait when defining empathy. When we empathize with others, we may experience emotional distress temporarily that makes us feel uncomfortable, especially when exposed to the pain of others. This uncomfortable state can be considered an element of empathy and it can lead to helping behaviors (e.g., charity donations). However, one is a situation where a person feels pain and the other is the tendency to empathize with others. Temporary empathic distress cannot be confused with empathizing with others. To measure the tendency to empathize with others, we should not focus on a specific situation, but rather focus on the stable reactions across times and situations.

Second, we imagine the possibility that Davis (1980) confused the secondary trait with the central trait when defining the variables of personal distress. Allport (1961) noted three types of traits: a cardinal trait that dominates an individuals' entire personality; a central trait, which is the same as a common trait that devises our personalities; and a secondary trait that includes attitudes and preferences that appear only under certain situations. Personal distress refers to being "exposed to the suffering of others"; therefore, it can be said that the aspect of secondary traits is strong in personal distress. Such secondary traits may lead to empathizing with others. A person whose mind becomes uncomfortable when exposed to the pain of others could tend to empathize with others, whereas a person who remains calm when facing other's pain may also be called empathetic to the feelings of others.

A third possibility is that the items of the personal distress scale were wrongly selected and only reflect the central characteristic of negative emotionalism, not the secondary trait of personal distress. These problems are evident when examining the items of personal distress. Taking one item for example, "In emergency situations, I feel apprehensive and ill-at-ease" may refer to temporary empathizing, and it seems to be consistent with the concept of personal distress. However, when responding to this question, people may focus on the general

tendency of being “worried and anxious” rather than “emergency situations.” Therefore, people with high personal distress may be seen as emphasizing with others' feelings, or they could be seen as being easily disturbed or not having control. The results of this study support the latter. People with high personal distress seem to be vulnerable to a self-absorption paradox, unstable emotionality, self-criticism, and negative self-concept. Those with high personal distress are “self-oriented” and “self-absorptive,” which may block the empathic interaction. Therefore, if we really want to measure the attributes of emotional empathy, it may be better to balance positive and negative situations when designing questionnaire items.

In sum, we examined the problems with measuring empathy using the concept of personal distress. Davis' (1980) IRI has been widely used to measure empathy; however, there has been much criticism that personal distress does not reflect empathy properly (e.g., Alterman et al., 2003; Baron-Cohen & Wheelwright, 2004; Cliffordson, 2001; Decety & Lamm, 2006). This study further expanded these opinions. In addition, there is a growing body of literature challenging the idea that empathy and emotional intelligence are generally good traits (Bloom, 2017; Davis & Nichols, 2016). In other words, empathy is neutral, and it may be a positive or negative trait depending on the situational context. Specifically, personal distress reflects the dark side of empathy, which is additional evidence challenging the belief that “empathy is always good.”

Finally, this study had some limitations, including the sample and generalizability of the results. Since this study was conducted only among online university students, the results cannot be generalized to other populations. In addition, since the participants were interested in psychology, they may have considered empathy to be more constructive or positive. To overcome this limitation, our results should be repeatedly verified using diverse samples other than online university students.

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