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“I AM NOT ALONE IN MY SUFFERING”: USING THE IRAP TO IMPLICITLY MEASURE THE COMMON HUMANITY FACTOR OF SELF-COMPASSION

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“I AM NOT ALONE IN MY SUFFERING”: USING THE IRAP TO IMPLICITLY
MEASURE THE COMMON HUMANITY FACTOR OF SELF-COMPASSION

A Thesis
Presented To
Eastern Washington University
Cheney, Washington

In Partial Fulfillment of the Requirements
for the Degree
Master of Science in Psychology

By
Eman Alasiri
Spring 2018

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ABSTRACT

According to self-compassion researcher Kristin Neff (2003), self-compassion encompasses three factors: self-kindness, mindfulness, and common humanity. Common humanity is the belief that suffering is a shared human experience that all people go through at some point in their lives (Neff, 2003b; 2008). Previous research based on self-report data suggests that when applying compassion, people tend to be harsher on themselves and more compassionate toward others (Neff, 2003a). This study aims to explore the factor of common humanity and whether people tend to identify with this factor more in relation to their own experiences or those experiences of others. Most of the previous research on self-compassion used explicit measures which can be scientifically limiting (Greenwald, McGhee, & Schwartz, 1998). This study developed an implicit measure of common humanity using the Implicit Relational Assessment Procedure (IRAP), a well-established measure of implicit beliefs. Participants completed the implicit assessment as well as Neff's self-compassion scale. Results of 55 participants ($N = 55$) indicated that explicitly, participants reported more common humanity toward other's experiences and more isolation toward those of their own. Implicitly, however, participants showed a bias toward associating more common humanity to experiences of the self and less isolation level than the one reported in the questionnaire. Surprisingly, even though the level of self-isolation was less than reported, participants showed a bias toward associating lower level of isolation to others' experiences of difficulty than experiences of the self. Implications and limitations of this study are further discussed.

Keywords: self-compassion; common humanity; isolation; IRAP

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Using the IRAP to Implicitly Measure the Common Humanity Factor of Self-Compassion

Introduction

Since life's experiences often encompass challenges, difficulties, and suffering, previous research has investigated the different ways humans perceive these difficulties (Neff, 2003a; 2008), and react to them (e.g., Hoffart, Øktedalen, & Langkaas, 2015; Paschali, Mitsopoulou, Tsaggarakis & Karademas, 2012). Compassion, for example, is an approach to suffering that was highly emphasized in the Eastern cultures of Buddhism (Neff, 2003a, Neff, 2003b; Rubin, 1996), and has been integrated into Western psychology (Gilbert, 2009; Rubin 1975). According to Oxford dictionary, suffering is "the state of undergoing pain, distress, or hardship. The concept of suffering can be applied to any physical, psychological, or even financial struggles and adversities. Through the lens of compassion, people approach their suffering and that of others with kindness rather than avoidance and judgment, with the intention to alleviate that suffering (Kolts, 2016; Wispe, 1991). Previous research has found that compassion toward the self is linked to less self-judgment, less self-criticism, and better coping strategies (Boersma, Håkanson, Salomonsson, & Johansson, 2015; Neff, 2016).

When discussing suffering, one of the most relevant factors of self-compassion is common humanity; the idea that suffering is a shared human experience that all people go through at some point in their life (Neff, 2003b, 2008). Feeling connected to a larger group that experiences a degree of the same adversity that one endures can have a profoundly positive effect on the individual (Tesser, 1991). Since an important goal for a compassionate self is to have a strong sense of common humanity (Neff, 2016), it is

important that suffering of the self and that of others be understood as part of a shared human experience. Neff (2003a) suggested in her previous research on self-compassion using explicit measures, that people tend to be harsher on themselves and more compassionate toward others. This finding was a generalization of the global concept of self-compassion and how people apply it in their life. How people perceive and apply the specific factors of self-compassion, including common humanity, is yet to be explored.

The purpose of the current research is to further investigate the factor of common humanity using an implicit measure. Previous research on self-compassion (Neff, 2003a, 2003b, 2008) focused on measuring common humanity in relation to the self. In other words, it was more concerned about how people perceive and react to their own suffering and difficulties, and whether they were compassionate toward themselves or not. In this research, not only will I investigate how people perceive their own difficulties, but also how they perceive the difficulties of others and compare the two. Using an implicit measure to explore the relationship between how people perceive their difficulties versus those of others is important as self-reports can be scientifically limiting and subject to demand characteristics (Greenwald, McGhee, & Schwartz, 1998), especially when measuring socially sensitive constructs such as this one.

This study aims to explore possible discrepancies between what people think they believe in and what they truly believe when it comes to applying common humanity to life challenges and difficulties experienced by themselves or others. By developing an implicit measure using the Implicit Relational Assessment Procedure (IRAP), which will be discussed in detail later, implicit beliefs in regard to common humanity and isolation will be assessed. When people have a high sense of common humanity toward others but

not toward themselves, they perceive others' adversity and hardship as normal, shared experiences while they critically perceive their own experiences as different and isolating. On the other hand, when people have a high sense of common humanity toward themselves but not toward others, they perceive their own adversity and hardship as normal shared experiences while being likely to critically perceive the experiences of others as different and isolating. To better understand these issues, it is important to review previous research on self-compassion, common humanity, and how they have been measured.

Self-compassion

Self-compassion is an important concept that has often been related to well-being and mental health. Compassion can be defined as being moved by the suffering of others and the self, combined with the motivation to alleviate and prevent such suffering (Gilbert, 2010; Kolts, 2016). Self-compassion, therefore, is "being touched by and open to one's own suffering, not avoiding or disconnecting from it, generating the desire to alleviate one's suffering and to heal oneself with kindness" (Neff, 2003a, p.87). Previous research done across different cultures and among different age groups found that self-compassion is associated with better overall quality-of-life and improved health-related outcomes (Hwang, Kim, Yang, & Yang, 2016; Marshall, Parker, Ciarrochi, Sahdra, Jackson, & Heaven, 2015; Neff, 2016). Marshall et. al. (2015), for example, found in a longitudinal study that self-compassion worked as a buffer against the negative outcomes of low self-esteem among adolescents. Another study done in Japan found that self-compassion is associated with better mental health and decreased depression, especially

among the elderly (Hwang et al., 2016). Hence, understanding and promoting self-compassion is crucial, especially in the field of mental health.

Neff (2003a, 2003b), was the first researcher to operationally define self-compassion by introducing its three factors: self-kindness, mindfulness, and common humanity. First, self-kindness is to nourish the self with kindness and acceptance rather than judgments and harsh criticism. It incorporates being tolerant of one's own flaws and mistakes (Neff, 2003a). Second, mindfulness is a balanced state of mind in which there is an absolute acceptance of thoughts regardless of their directions (Brown & Ryan, 2003; Tirsch, 2010). It is a state in which one observes their own thoughts as they truly are as opposed to exaggerating them or what Neff (2003a) calls over-identifying with them. The third factor of common humanity and its binary factor of isolation will be the focus of the present study.

When studying and discussing each of these factors, Neff (2016) argues that it is essential to discuss their bipolar factors given that one only exists in relation to the other. She argues, for example, that self-kindness, is better understood in contrast to self-judgment. Another important reason to discuss both the positive and the negative components of each factor is because they are different ways of thinking that require different cognitive and neurological pathways to process them (Gilbert 2005; Neff, 2016). In this study, I have chosen to focus on the common humanity-isolation dimension of self-compassion.

Common Humanity

Common humanity is the realization that personal flaws, failures, vulnerabilities, and suffering are shared by all humans rather than being unique and isolated experiences

of the individual (Neff, 2003a; Neff, 2003b; Neff, 2009). Feeling connected to a larger social group that one can identify with is very critical for human psychological well-being, and it has been argued that people start to fulfill this need during their early developmental stages (Lee & Robbins, 1995). Connectedness, moreover, is an important human experience because it influences people's opinion of themselves in relation to others, particularly around difficult experiences. People might feel that it is normal to have such difficulties in life since all people go through them, and that helps them to reduce their anxiety and stress.

Tesser (1991) found that feeling connected and part of a larger social group is associated with higher life quality and affective management of needs and daily stressors. This might be the result of the belief that these life stressors are shared experiences of simply being human. High sense of common humanity, hence, decreases self-judgment and self-blaming, so people start thinking, "I am not alone in this" and "this is not my fault" (Neff, 2003b). With this pattern of thinking, uniqueness and isolation vanish. Within a common humanity framework, there is a shared understanding and support system when thinking about self-shortcomings and weaknesses (Neff, 2009).

Even though common humanity is an important and accessible support system (Neff, 2009), hardship and suffering can easily provoke people to feel isolated as they focus on their own difficulties (Neff, 2008). Focusing on the self at the time of suffering impedes people from remembering and thinking about similar experiences of pain that other people undergo, and hence they easily feel isolated (Neff, 2008). When people feel their experiences of suffering are unique and isolated, they become prone to psychological problems such as anxiety and depression (Lee & Robbins, 1998; Neff,

2009). Previous research suggests that understanding and feeling the common nature of personal difficulties is beneficial, yet challenging (Neff, 2008). Previous research, however, did not explore the difficulty of perceiving the experiences of others as part of a shared common humanity, which is one of the main goals of this study.

Neff (2003b) developed the Self-Compassion Scale (SCS) to measure the various factors of self-compassion including the factor of common humanity vs. isolation. The SCS scale was developed in the form of a questionnaire containing 26 questions. It is divided into six subscales reflecting bipolar ends of each compassion construct: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Each subscale encompasses four to five questions. For purposes of this study, I will only focus on the subscales of common humanity and isolation. As mentioned earlier, Neff (2003a) argues that, when measuring self-compassion, people tend to be harsher on themselves and kinder to others. These results cannot be generalized, however, because they were based only on self-reports, which can be easily influenced by many factors.

The use of explicit measures can be scientifically limiting as it does not provide the whole picture of a given psychological phenomenon (Greenwald, McGhee, & Schwartz, 1998). They are based on self-perceptions which may not be accurate as they can be influenced by self-presentation and self-enhancement (Bast & Barnes-Holmes, 2014; Paulhus & Levitt, 1987; Swann, 2007). Social desirability, hence, is a possible bias that may influence participants' responses especially in regard to socially related constructs (Tourangeau & Yan, 2007). People may answer in a given way believing it is what they truly think while they are being blinded by self-deceptive positivity. They

might, nevertheless, be aware that they are not responding honestly to these questions, yet do it to represent themselves in a positive way (Paulhus, 1991). Even if people do not answer in a socially desirable way, they may not be aware of their biased tendency to choose a contextually appropriate answer (Bast & Barnes-Holmes, 2014; Weber & Cook, 1972). Thus, answers using only explicit measures of common humanity and isolation may not be representative of what people think and believe. It is especially challenging when using explicit measures for self-compassion factors, not only due to self-biases that might influence the way people respond, but also because people may not be aware of their emotional experiences (Neff, 2003b). Schwarz and Clore (1983) suggest that emotional state temporarily effect how people evaluate their life experiences. Therefore, explicit measures are prone to mood related factors.

Because most previous research on self-compassion used self-reports, finding an alternative measure that can capture the implicit perspective of self-compassion, specifically common humanity represents an important step forward in understanding the dynamics of these constructs. A new implicit measure will be developed in this study to measure the factor of common humanity vs. isolation. Since this is the first time an implicit measure of common humanity will be used, this study should be considered as a first step toward a more systematic analysis of self-compassion.

Implicit Relational Assessment Procedure (IRAP)

Implicit measures have been used to examine some of the implicit beliefs that would otherwise be impossible to study. One of these first measures is the Implicit Association Test (IAT), a measure developed to assess beliefs that can be easily hidden in explicit measures such as questionnaires and interviews (Greenwald, McGhee,

&Schwartz, 1998). One of the critiques of the use of IAT is that it does not directly measure beliefs. Rather, it measures the strength of association between two concepts stored in the memory. In other words, it measures an index of associations that can be involved in a given belief, and hence, indirectly measures that belief (De Houwer, 2002).

The Implicit Relational Assessment Procedure (IRAP), nevertheless, is a relatively new, yet well-established, measure designed to examine implicit beliefs through cognitive relations (Barnes-Holmes, Barnes-Holmes, Power, Hayden, Milne, & Stewart, 2006). Unlike the IAT, IRAP uses cognitive relations between stimuli/events to measure, not only associations, but also the directionality of a specific relationship. It, for examples, uses relational terms such as better, worse, similar, and different to assess the properties of the relations between target stimuli (Barnes-Holmes, Barnes-Holmes, Power, Hayden, Milne, & Stewart, 2006).

The IRAP was derived from Relational Frame Theory (RFT), a behavior analytic approach to understanding cognition and language (Barnes-Holmes, Healy, & Hayes, 2000; Hayes & Barnes-Holmes, 1997; Hayes, Barnes-Holmes, & Roche, 2001).

Relational Frame Theory suggests that human cognitive function is developed through stimulus relations of historical and current events (Barnes-Holmes, McHugh, Hayes, 2004; Barnes-Holmes et al., 2006). In RFT, beliefs and understandings that people have are formed through this process of stimulus relating of life events and experiences.

The IRAP is a computer-based task that asks participants to respond quickly and accurately to certain relational stimuli (Barnes-Holmes, Barnes-Holmes, Stewart, Boles, 2010). Through the IRAP, participants are instructed to respond in a way that is either consistent (half of the blocks) or inconsistent (half of the blocks) with their pre-existing

knowledge. For example, whenever the word “pain” is presented, there will be two responding options, either “pleasant” or “unpleasant.” In the consistent blocks, participants are directed to choose “unpleasant.” In the inconsistent blocks, however, participants are directed to choose “pleasant.” The logic behind the IRAP is that the latency of responding to the tasks should be shorter across blocks that are consistent with participants’ pre-existing knowledge/beliefs, and it should be longer across blocks that are inconsistent with participants’ pre-existing knowledge/beliefs (Barnes-Holmes et al., 2006).

Previous research using the IRAP has found that the IRAP is a valid and reliable measure of implicit beliefs (Barnes-Holmes et al., 2006; Greenwald, Nosek & Banaji, 2003; Staunton & Barnes-Holmes, 2004). For example, a study done by Roddy, Stewart, and Barnes-Holmes (2010) found that data collected with an IRAP developed to measure attitudes toward overweight individuals significantly predicted behavioral intentions against those individuals. In other words, the IRAP was able to predict how participants were more likely to act toward individuals with obesity. Previous research not only provided evidence of the reliability and validity of the IRAP, but also provided evidence of the effectiveness of this measure to detect discrepancies between explicit and implicit beliefs, especially in regard to concepts that can be socially sensitive.

Discrepancies Between Explicit and Implicit Measures

To examine attitudes toward individuals with Autism Spectrum disorder, Barnes-Holmes et al. (2006) used both questionnaires to explicitly ask participants about what they think and believe, and the IRAP to implicitly measure their beliefs. They divided participants into three groups, a group with six months to six years of experience working

with people with Autism Spectrum Disorder, a group with under six months of experience, and a group with no experience at all. Results of the questionnaires yielded that those with six months to six years of experiences tended to have more positive attitudes than negative attitudes toward people with Autism than did those with no experience. Statistical analysis of the IRAP, however, found that there were no significant differences across participants and that all participants had a relatively shorter latency average when responding to negative stimuli toward individuals with Autism Spectrum disorder suggesting a negative bias toward them.

Another study done by Bast and Barnes-Holmes (2014) applied the IRAP in examining forgiveness of flaws, weaknesses, and shortcomings of the self versus those of others. Bast and Barnes-Holmes (2014) argued that it is important to use an implicit measure when studying a sensitive concept such as forgiveness of the self versus forgiveness of others as answers on the questionnaire might be disguised by self-biases. Using a sample of 47 participants, they found that on the questionnaire, people were more forgiving of others' flaws, mistakes, and shortcomings while they tended to be more critical and judgmental of their own. Using the implicit measure (IRAP), nevertheless, they found that people were more forgiving toward themselves than they were toward others. Results of this study suggest that when comparing self to others, people's implicit beliefs might be more accurate indication of what people believe versus what they think they believe.

One previous study applied the IRAP to look specifically at self-compassion. This study examined the self-kindness factor of self-compassion. The researcher used the IRAP to investigate if there would be any discrepancies between what people think they

believe and what they truly believe in regard to self-kindness. Compiani (2015), developed an IRAP to measure self-kindness versus judgment. They also used questionnaires (explicit measures) to compare the results of the two. Results gathered from a sample of 98 participants indicated that on an explicit level, people tend to be more kind toward others and critical toward themselves. At an implicit level, on the other hand, people tend to be more kind toward themselves than they are toward others, indicating a self-positive bias. Thus, this study demonstrates that there can be discrepancies between explicit and implicit measures when testing self-compassion.

The current study aims to investigate the common humanity sub-category of self-compassion. As previous research suggests, the use of explicit measures can be limiting, and it does not provide an inclusive perspective of a given psychological construct. One of the goals of this study is to develop an implicit measure of the factor of common humanity and compare the results of the implicit measure to the self-compassion questionnaire, SCS (Neff, 2003a). Since the factor of common humanity involves comparisons between self and others, it is important to investigate whether people tend to identify with this factor more toward their own experiences or in reference to the experiences of others. I hypothesize that there would be discrepancies between the explicit and implicit measures in this study. Specifically, it is expected that participants would report more common humanity toward others on the explicit measures, and yet, they would report a bias toward the self on the implicit measure. In other words, it is predicted that people would think they experience more common humanity toward other people's suffering than they would toward their own. Even though that is what they

believe, they tend to be biased when the struggle is their own that they experience more common humanity toward their suffering.

Methods

Participants

124 undergraduate students were recruited from Psychology classes at Eastern Washington University. Fifty-five out of the 124 participants met the requirements of this study. Hence, only data from the 55 were used. Fourteen participants identified their gender as “male,” forty identified as “female,” and one participant identified themselves as “gender fluid.” Participants’ ages ranged from 18 to 49 years old with a mean of 21 years old. None of the students had a previous exposure to the implicit measure. Participants received course credits as a compensation for participating in this study.

Setting, Apparatus and Materials

The study took place in a quiet room that was free from distractions. Both measures were presented to participants using a standard laptop. Implicit Relational Assessment Procedure IRAP-2012 was the version of the IRAP used for this study. Explicit measures (questionnaires) were completed using Google forms.

Implicit Measure: The IRAP is a computerized program that allows participants to read the instructions at their own pace and start once they are ready by directing them to press the “spacebar” in the keyboard. The IRAP measures response latencies; how quickly and accurately participants respond to stimuli as they are presented in different ways. The logic of the IRAP is that participants would respond faster to stimuli that are coherent with their preexisting verbal relations (Bast & Barnes-Holmes, 2014).

The IRAP also provides participants with feedback indicating if they met the requirements of a given block or not, and prompts to go fast when they take long in a given trial. The purpose of the feedback is to constantly remind the participants of the expected criteria to which they need to adhere. For the current IRAP, there were two different sets of instructions, alternating between different blocks. The first set of instructions stated, “For this block, answer in a way that is compassionate toward yourself, but not compassionate toward others,” while the opposite set of instructions stated, “For this block, answer in a way that is compassionate toward others, but not compassionate toward yourself.” One of the two sets occurred before each block and participants could spend as much time as they needed to read, and when they were ready, they could press “spacebar” to proceed to the task. It is important to mention here that I chose to use the word “compassionate” to avoid priming participants to the idea of common humanity.

The IRAP represents three main stimuli in each trial/screen; a label stimulus, a target stimulus and two responding statements. Label stimuli for this IRAP were two different statements; one pertaining to the self, (when I have difficulties, I am...), and one pertaining to others (when another person has difficulties, they are...). These two statements were randomly alternating in each trial.

Target stimuli were randomly paired with the label stimuli, stated above, in each trial (see Appendix A). For this IRAP, there were 12 target stimuli. Six reflected common humanity, (normal, connected, the same as others, human, similar to others, and like others), and the other six reflected isolation, (abnormal, cut off, different from others, flawed, worse than others, and unlike others). These statements were derived from Neff’s

subscales of common humanity and isolation in Self-Compassion Scale (SCS) (2003). These statements were significantly correlated with Neff's (2003) subscales of common humanity and isolation (reported later). When developing these statements, it was crucially important to make the statements in the common humanity category match the length (number of syllables) of their counterparts in the isolation category, so that reaction time would be an accurate indication of the directionality of the implicit belief rather than the length of the targets. After developing the initial statements, they were tested by gathering pilot data (not included here) and minor changes were made to the statements to better represent the concepts of common humanity and isolation.

The two responding statements appeared at the bottom of the screen prompting participants to choose 'd', which was on the left side of the screen, for "True" and 'k', which was on the right side of the screen, for "False." For the current study, these two options occurred simultaneously and stayed in the same position in each trial. Some previous studies added a layer of cognitive difficulty by making the two responding options move from right to left and vice versa in each trial (e.g. Bast & Barnes-Holmes, 2014; Bast, Linares, Gomes, Kovac & Barnes-Holmes, 2016). I refrained from adding this change given the existing complexity of the current IRAP.

For a given trial, the label stimulus and the target stimulus randomly represented one of four possible combinations, (a) Self-Common Humanity (e.g. when I have difficulties, I am...Connected); (b) Self-Isolation (e.g. when I have difficulties, I am...Cut-off); (c) Others-Common Humanity (e.g. when another person has difficulties, they are...Connected); (d) Others-Isolation (e.g. when another person has difficulties, they are...Cut-off). Participants then choose either "True" or "False" for each given

combination based on the instructions they were given at the beginning of each block. An example of the four trial-types of the current IRAP is presented in Fig. 1.

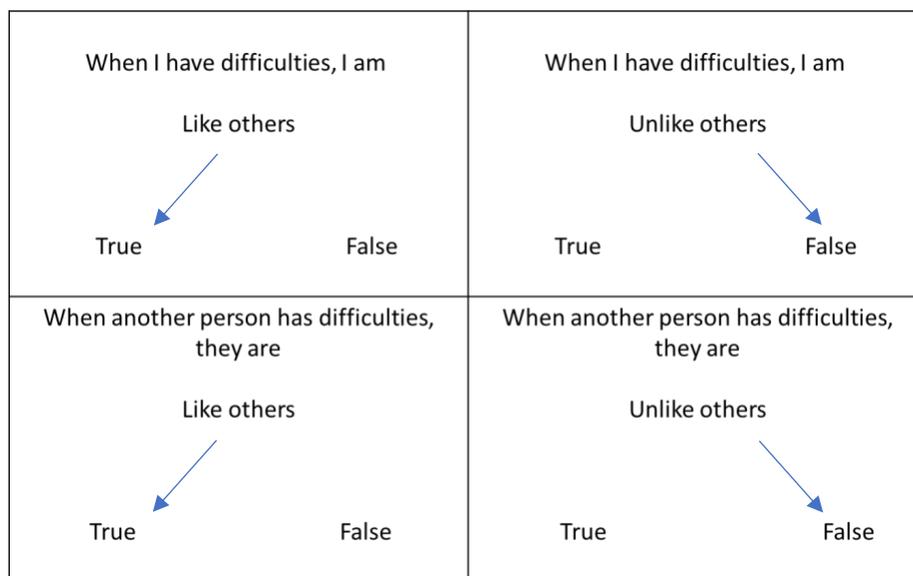


Figure 1. An example of the four different trial types presented in the current IRAP

Explicit Measures: The explicit measures used for this study contained two parts. The first part was the Self-Compassion Scale (SCS) (Neff, 2013). This scale contained 26 statements and participants rated these statements from 1 to 5, with 1 being (almost never) and 5 being (almost always). Even though the whole scale was used, only statements pertaining common humanity and isolation were included in the following analysis.

The second measure used was an analogue of the same stimuli used in the IRAP. The two labels, (when I have difficulties, I am...) and (when another person has difficulties, they are...), were paired with the six common humanity targets and the six isolation targets. Hence, there were 24 statements, which participants rated on a scale from 1 (Not True at All) to 7 (Very True).

Procedure

Implicit Measure: At the time of the study, participants were greeted by the researcher and guided to a quiet room that was equipped with a comfortable desk with a laptop. The researcher then read the instructions from a script and explained to participants the nature of the task that they would perform. Participants were told to read the instructions at the beginning of each trial and, they were showed they keys they needed to press to respond either “True” or “False.” It was explained that they needed to answer in the directed way for each trial as fast as they could, and that an “X” mark would appear when if responded in a way that was not consistent with the instructions of that block. If this “X” appeared, they couldn’t move to the next trial until they choose the correct response.

The IRAP was composed of six test blocks and two practice blocks. Participants started with the practice blocks and could retake them up to four times. If participants met the requirements of accuracy (at least 80% correct responses) and speed (at or less than 1500 milliseconds), they could proceed to the actual test blocks. If, nevertheless, they did not meet either of these requirements, a “Thank you” screen occurred and they were debriefed and asked to move to the explicit measure. Such participants’ data was not included in the analysis.

Each block of the IRAP had 24 trials. As explained earlier, each trial represented a label stimulus, a target stimulus, and two response options. Within each block, the 12 target stimuli (normal, connected, the same as others, human, similar to others, and like others) and (abnormal, cut off, different from others, flawed, worse than others, and unlike others) occurred twice. First, they were paired with the first label stimulus (when I

have difficulties, I am...), and then were paired with the second label stimulus (when another person has difficulties, they are...). The IRAP is programmed in a way that the 24 pairs would occur randomly. Generally, the IRAP is described as having four trial types within each block (Bast & Barnes-Holmes, 2014). For this IRAP the four trial-types were, self-common humanity, self-isolation, others-common humanity, and others-isolation.

As explained earlier, there were two types of blocks alternating in this IRAP. In the first type, participants were instructed to answer in a compassionate way to the self but not to others. In this block, the correct response would be “True” to common humanity targets and “False” to isolation targets that are paired with the *self*, (e.g. responding False to “when I have difficulties, I am...Flawed and True to “when I have difficulties, I am...Human”). They would also respond “False” to common humanity targets and “True” for isolation targets that were paired with *others*, (e.g. responding False to “when another person has difficulties, they are...Human” and True to “when another person has difficulties, they are...Flawed”).

The second type of blocks, participants were directed to answer in a compassionate way toward others but not toward the self. In this block, the correct response would be “True” to common humanity targets and “False” to isolation targets that are paired with *others*, (e.g. responding False to “when another person has difficulties, they are...Flawed” and True to “when another person has difficulties, they are...Human”). They would also respond “False” to common humanity targets and “True” for isolation targets that were paired with the *self*, (e.g. responding False to

“when I have difficulties, I am...Human and True to “when I have difficulties, I am...Flawed”).

The IRAP recorded accuracy rate (the percentage of correct answers) and latency (the time each participant took before responding to a given stimulus) for each participant and generated three Excel files. Once participants completed the practice blocks and the six test blocks, a “Thank you” statement occurred and they were directed to notify the researcher.

Upon being notified that the participant had completed the IRAP, the Researcher came back into the room and opened the online questionnaire for participants. They then were directed to spend a few minutes answering the questionnaire on the screen and to notify the researcher when they finish. The researcher left the room again to avoid the presence of the researcher as a confound.

Results

The IRAP

For the IRAP, response latency was the primary dependent variable used in the study. It is defined as, “the time in milliseconds from the onset of trial until the emission of a correct response” (Roddy, Stewart, & Barnes-Holmes, 2009, p. 421). As explained previously, participants were required to maintain an accuracy level of $\geq 80\%$ correct responses and a latency of $\leq 1500\text{ms}$ to qualify for inclusion in the study. For each datum to be used, a participant needed to meet these requirements in at least two of the three consecutive pairs of test blocks. For participants who didn't meet the criteria in one of the three pairs of test blocks this pair was discarded and the *D*-IRAP scores were calculated by averaging the remaining two pairs of test blocks (Barnes-Holmes et al., 2010). For

example, if the pair of block one and the pair of block three met the criteria, but the pair of block two didn't, we would use the data of blocks one and three to produce *D*-IRAP scores (explained later).

Individual response latencies were transformed into four *D*-IRAP scores, or what are called IRAP effects. The *D*-IRAP scores were obtained using the D_{IRAP} algorithm, (Barnes-Holmes et al., 2010), which was developed according to the *D* algorithm that was used to analyze data for the Implicit Association Test (IAT) (Schmukle, Egloff, & Gutenberg, 2005). The reason behind transforming latencies into *D* scores is to reduce the influence of individual differences between participants such as motor skills, cognitive ability, and age (Barnes-Holmes et al., 2010; Greenwald et al., 2009). Hence, *D*-IRAP scores provide researchers with data that is less contaminated by extraneous factors.

D-IRAP scores were calculated using the following steps: (1) only latencies from the test blocks were used (data from practice blocks were discarded); (2) latencies over 10,000ms were eliminated from the data set; (3) if a participant produced more than 10% of trials with latencies that were less than 300, the whole data for that person was removed; (4) 12 standard deviations were calculated for the four trial types, hence there were four for test blocks 1 and 2, four for test blocks 3 and 4, and four for test blocks 5 and 6; (5) 24 latency means were calculated for the four trial types in each test blocks; (6) difference scores were calculated for the four trial types between each pair of blocks by subtracting the latency means of the consistent block from the latency means of the corresponding inconsistent block (e.g. latency means of the self-common humanity block were subtracted from the latency means of others-common humanity block); (7) each difference score then was divided by its corresponding standard deviation, calculated

previously in step 4, generating 12 *D*-IRAP scores, one for each trial type in each pair of the test blocks; and finally (8) 4 *D*-IRAP scores were generated for each trial type by averaging the 12 *D*-IRAP scores calculated in step 7. The same steps were followed for participants who only met the criteria in two of the three pairs of test blocks with minor adjustments such as calculating 8 standard deviation for each trial types instead of 12 (Bast et al., 2016). In considering the four *D*-IRAP scores, positive values represent a bias toward associating the construct (common humanity or isolation) with the self i.e. (self-common humanity and self-isolation) whereas the negative values represented a bias toward associating the construct with others (others-common humanity and others-isolation).

The four *D*-IRAP scores were then entered into a one-way repeated measures analysis of variance (ANOVA). Results of this analysis concluded that there was a significant effect of trial-type on response latency, $F(3, 162) = 26.42, p = .001, \eta^2 = .60$. Bonferroni post hoc test results showed that self-common humanity trial-type differed significantly in terms of response latency from self-isolation trial type ($p = .001$). Self-common humanity trial-type also differed significantly from others-common humanity trial-type ($p = .001$). Further, results yielded a significant difference between self-isolation trial-type and others-isolation trial type ($p = .017$), as well as between self-isolation and others-common humanity trial-types, ($p = .020$). Results showed that there is no significant difference between others-common humanity trial-type and others-isolation trial-type. The four trial-type scores were entered into a one-sample *t*-test and results indicated significant differences for all of these trial-types were significant

compared to zero ($p \leq .001$), except for self-isolation trial-type. These results are presented in Fig. 2.

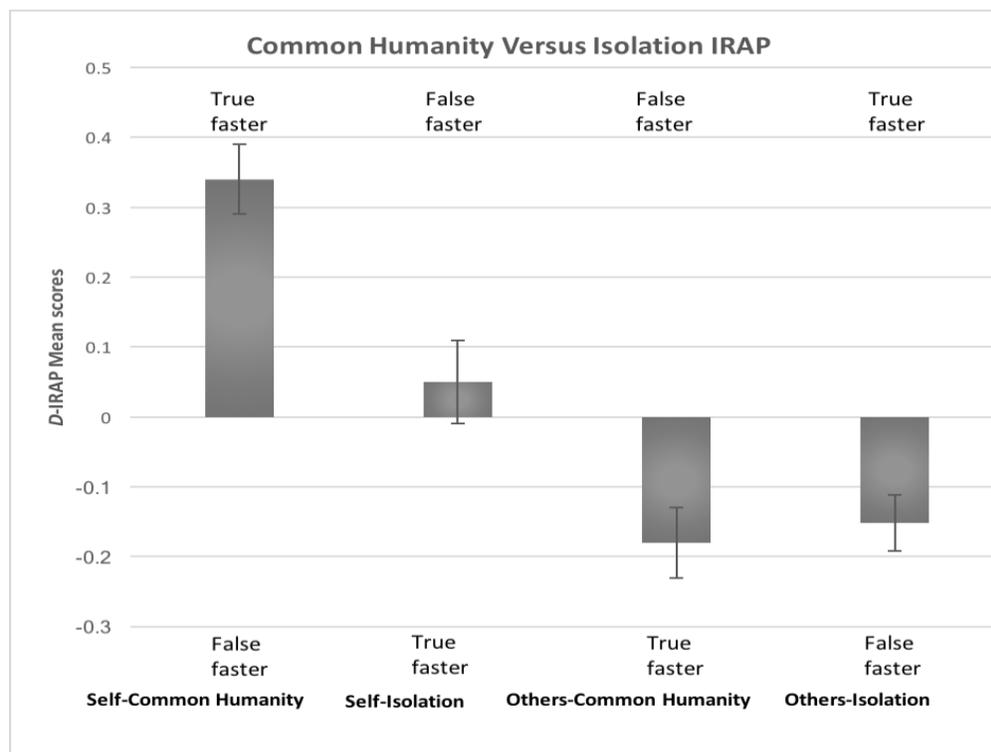


Figure 2. Mean D-IRAP scores and SE.

Statistical analyses thus indicated that participants showed an implicit bias toward confirming experiences of common humanity for the self and others with a stronger bias toward the self. In other words, participants associated more common humanity with their own experiences than to experiences of others. For isolation, participants did not show a specific isolation bias toward the self (neither confirming nor rejecting) whereas they showed a negative isolation bias toward others. In other words, participants showed an implicit bias toward rejecting the isolation of others when they struggle but did not show any bias toward self-isolation when they struggle.

Explicit Measures

The ratings of the statements in the explicit IRAP-analogue were used to generate four means. Each score of these four represented its counterpart trial-type from the IRAP (self-common humanity, self-isolation, others-common humanity, and others-isolation). These means are shown in Fig 3. As discussed previously, the scale ranged from 1 to 7. The ratings obtained were coded so that the higher the rating, the more true it is for the participant, whether that is common humanity or isolation. For example, when a participant rated “when I have difficulties, I am...Human” as a 6 this concluded a bias toward self-common humanity. On the other hand, if they rated “when I have difficulties, I am...Cut off” as a 6 it concluded a bias toward self-isolation.

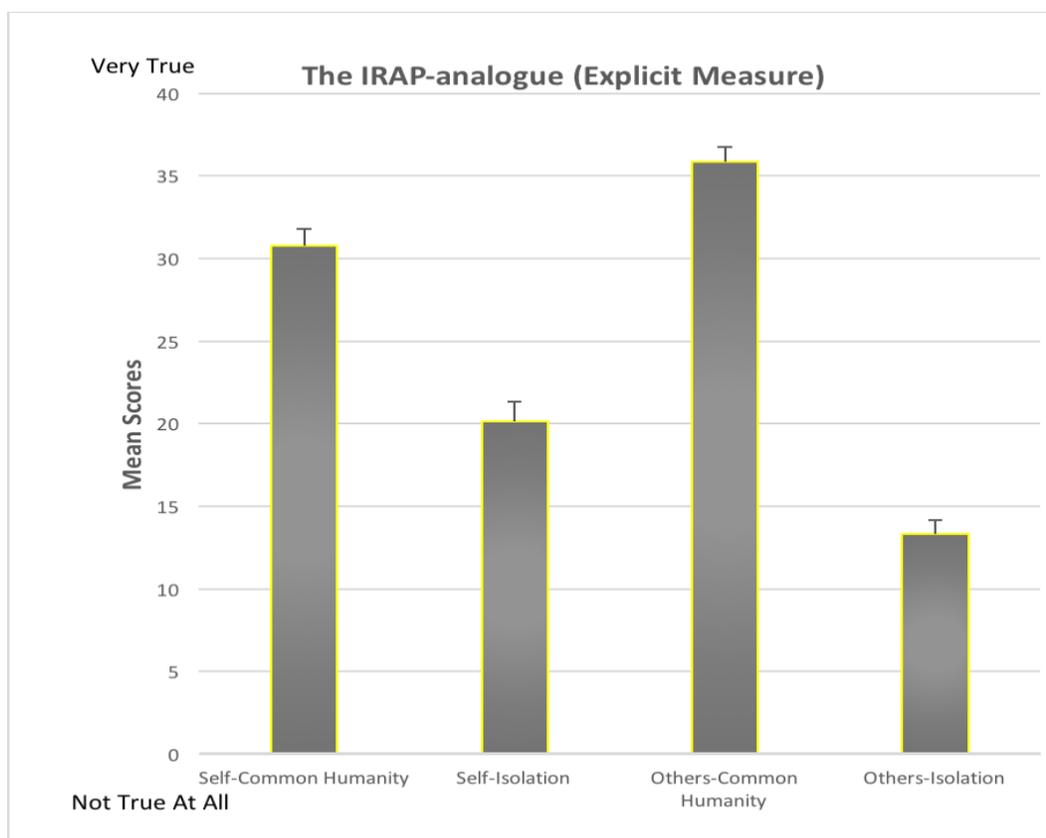


Figure 3. Mean Scores of the IRAP-analogue and SE.

The means and the standard errors for the ratings of the four sets of statements were the following; self-common humanity, $M = 30.80$, $SE = 1.00$; self-isolation, $M = 20.13$, $SE = 1.19$; others-common humanity, $M = 35.87$, $SE = 0.87$; others-isolation, $M = 13.33$, $SE = 0.85$. The four mean scores were entered into a one-way repeated measures analysis of variance (ANOVA). Mauchly's test indicated that the assumption of sphericity had been violated, $\chi^2(5) = 83.53$, $p = .001$, and so the Greenhouse-Geisser correction ($\epsilon = .55$) was utilized in the F -ratio calculation. Results indicated that there was a significant difference between how participants rated each of the four sets of statements, $F(1.64, 88.79) = 92.51$, $p = .001$, $\eta^2 = .99$. Bonferroni post hoc test results concluded that all of the ratings differed significantly from one another, ($p = .001$).

These analyses thus suggested that, on the explicit measure, participants reported a significantly higher level of common humanity toward the experiences of others than experiences of the self. Moreover, participants reported a significantly lower level of isolation toward experiences of others than experiences of the self. In other words, participants reported associating higher ratings of common humanity and less isolation with the difficulties others go through while they associated less common humanity and more isolation with the difficulties they go through.

For the Self-Compassion Scale (SCS), the average was obtained for common humanity ($M = 3.10$, $SD = .80$) and isolation ($M = 3.15$, $SD = .93$) subscales. According to Neff (2003), on a scale from 1 to 5, a score of 1 to 2.5 represents a low self-compassion, 2.5 to 3.5 represents moderate self-compassion, and 3.5 to 5.0 represent high self-compassion when computing the overall mean of self-compassion. These results indicated that participants fell in the moderate range for these two subscales.

Correlations

Results of Pearson correlation showed that self-common humanity in the IRAP-analogue was positively correlated with Neff's (2003a) subscale of common humanity, $r = .38, p = .004$, and negatively correlated with the subscale of isolation, $r = -.48, p = .001$. In other words, participants' ratings of statements pertaining common humanity on the IRAP-analogue were positively correlated with their responses to the common humanity subscale and negatively correlated with their responses to the isolation subscale of SCS. Similarly, these results showed that self-isolation in the IRAP-analogue was positively correlated with the subscale of isolation, $r = .56, p = .001$, and negatively correlated with the subscale of common humanity, $r = -.49, p = .001$. These results support the construct validity of the statements derived from the SCS in the IRAP. Additionally, the four *D*-IRAP scores were entered into a correlation matrix along with their counterparts means obtained through the IRAP-analogue, and the two scores of SCS sub-scales. Results showed that there were no significant correlations between the IRAP and the explicit measures.

Discussion

Self-compassion, according to Neff (2003a; 2003b) is comprised of three dimensional factors: self-kindness vs. self-self-judgment, self-common humanity vs. self-isolation, and mindfulness vs. over-identification. This research focused on the factor of common humanity vs isolation. Common humanity can be defined as the awareness that individual flaws, vulnerabilities, difficulties, and challenges are part of the human experience (Neff, 2007). In other words, it is the realization that suffering in life is something all people experience one way or another (Gilbert, 2010). Isolation can be

defined as the notion that individual difficulties and suffering are unique and isolated experiences of the individual. When people feel isolated in their suffering, they are more likely to think that there is something wrong with them and that difficult situations are endured only by them, but not by other people.

This study aimed to explicitly and implicitly investigate common humanity and whether people identify with this factor more in relation to their own experiences or toward the experiences of others. This step was deemed important as most of the literature on self-compassion studies use explicit measures (e.g. questionnaires) (Gilbert, McEwan, Matos & Rivis, 2011; Neff, Pisitsungkagarn, & Hsieh, 2008; Neff, 2013), which can be easily influenced by extraneous variables (Greenwald, McGhee, & Schwartz, 1998).

The current study found that on the questionnaire measure, participants reported associating more common humanity to other people than to themselves when difficulties in life are experienced. In other words, participants reported that they experience others' suffering as a common human experience- that these (other) people are going through what everyone goes through in life - whereas they reported experiencing less of that sense of common humanity with regard to their own experiences of struggle. Thus, others' experiences of struggle are perceived as more "normal" than those experienced by the self. This finding was expected, and it is aligned with the previous research that suggests people tend to feel more compassion (the umbrella under which common humanity falls) toward others than they do toward the self on explicit measures (Neff, 2013).

The most interesting finding was that even though participants reported normalizing other people's experiences of struggle more than they did for themselves on

the explicit measure, results from the IRAP showed the opposite pattern. On the IRAP, participants showed a bias toward associating more common humanity to difficult experiences of the self than toward difficult experiences of others. In other words, on the implicit measure, participants were more understanding and compassionate toward difficulties endured by the self rather than toward difficulties endured by others.

In regard to isolation, participants reported on the questionnaire that they would feel more isolated than other people when they struggle. On the IRAP, however, participants showed a small, though not significant, bias toward not associating isolation to the self when struggling, with an even stronger bias toward not associating isolation toward others' struggle. In other words, it was confirmed that people would feel less isolated implicitly when struggling than what they reported on the questionnaire, but it was surprising to find that they associated lower levels of isolation toward others' experiences of struggle in both the explicit and implicit measures.

This discrepancy between what participants reported in the questionnaire and their measured implicit biases has been observed in several studies conducted on a culturally large scale, (Bast et. al. 2014; Bast et. al. 2016; Roddy et. al., 2009), including the study that examined self-kindness factor of self-compassion done in Italy (Compiani, 2017). One possible explanation for these effects has to do with social desirability (Greenwald et al., 1998). People are more likely to respond in a socially desirable way when performing self-reports, especially to socially sensitive topics such as the one studied here. It is more socially acceptable to indicate that other people's struggles are seen as a shared human experience. This, however, doesn't necessarily mean that the self is experiencing *less* common humanity.

Moreover, the suggestion that people might associate more common humanity to their own experiences than to the experiences of others is consistent with previous research done in the field of social psychology. According to Forsyth (2008), self-serving bias postulates that people tend to attribute positive qualities to themselves even if that means reaching to a distorted conclusion about the self. The reason behind this possible distortion is to maintain an enhanced self-esteem by associating self with positive outcomes. Words used in the current IRAP for the common humanity factor can be described as positive and desired characteristics (normal, connected, human...etc.), so participants were faster in associating them to the self than to others. Researchers found similar results in a previous research that examined self-esteem by using both implicit and explicit measures. They found that, when comparing self to others, participants associated more positive attributions to the self than to other people (Karpinski, 2004).

The fact that participants showed an implicit bias toward associating their experiences of suffering with common humanity implies that people might be more compassionate toward themselves than they are aware of. As discussed earlier, previous research suggests that it is important for individual wellbeing to be accepting of one's own suffering, flaws, and difficulties (Neff, 2016), and yet people do not often experience that self-compassion. An implication of the current study is to find ways in which psychotherapy can help individuals see this bias, honor it, and work with any feelings of shame that might surround it, so that the experience of common humanity in relation to their suffering can be brought into their explicit awareness. This is similar to what Kolts (2016) described as cultivating a compassionate version of the self.

According to Neff (2003a; 2003b; Neff, 2016), the self-compassion scale is a multi-dimensional scale that measures the two facets of a similar concept. Thus, common humanity and isolation should be the two opposite facets of one another. According to Neff (2003a), an increased common humanity should correspond with a decreased isolation, and vice versa. It seems, however, that the two concepts were producing slightly different results using the IRAP; participants showed a high level of self-common humanity, but unexpectedly didn't have any bias, either toward or away, for self-isolation. If these two were opposite sides of the same construct we would expect that self-isolation would be decreasing as self-common humanity was increasing. Similarly, with others' experiences, participants responded in a way suggesting a bias toward modestly associating lower level of common humanity to others than to the self, but also low levels of isolation. Again, if these two were opposite sides of the same construct we would expect that as others-common humanity was decreasing, others-isolation would be increasing.

These findings are consistent with critiques about the bi-dimensionality of the three factors. Muris and Petrocchi (2016) argue that the Self-Compassion scale (SCS) should not include both the positive and the negative factors, arguing that they represent very different concepts. They found that the three positive factors (self-kindness, common humanity, and mindfulness) of the SCS were positively correlated with overall wellbeing whereas the negative three (self-judgments, isolation, and over-identification) were positively correlated with psychopathology.

As discussed previously, correlations between the explicit and implicit measures didn't yield any significant effects. This finding is consistent with previous research

utilizing the IRAP (e.g. Bast et. al. 2014; Bast et. al. 2016). According to relational frame theory (RFT), the fact that the two measures were targeting the same concept but generated different results suggests the two might be mapping into different sets of cognitive and behavioral associations that are contextually controlled (see Hughes, Barnes-Holmes, & Vahey, 2012, for further explanation). Therefore, findings of the current study emphasize the importance of using an implicit measure to examine common humanity and common humanity-related behaviors for self and others from an angle that captures the behavioral complexity of human cognition.

This study has a few limitations. First, the rate of participants who did not pass the practice blocks in the IRAP was high. This might be the result of the complexity of the current IRAP (e.g. the wording of the stimuli). It can also potentially be explained by other factors such as participants' characteristics. Previous research has shown that anxiety and depression reduce cognitive functioning, so participants with either condition or both possibly had poor performance and high dropout rate (Bast et al., 2016). Future research could attempt to control for this by implementing depression and anxiety scales. Another possible explanation is that almost half of the data was collected toward the end of the academic quarter at Eastern Washington University. This increased the likelihood of having participants who were involved only to get the credit as a compensation and did not pay a careful attention to the details of the task.

Second, correlation between self-common humanity in the explicit IRAP-analogue and the common humanity sub-scales of SCS (Neff, 2003), although significant, was modest ($r = .38$) given that they were ostensibly measuring the same construct. Since the IRAP requires stimuli to be very brief and direct, it was crucial to create label and

target stimuli that would represent the concepts measured with the least number of words (see Appendix A). This might have decreased the likelihood of the current IRAP to capture what is exactly measured by the SCS. It is possible that the current IRAP is not the best representation of Neff's subscales of common humanity and isolation.

Third, the label stimuli that were used, (“when I have difficulties, I am...” and “when another person has difficulties they are...”) may not have captured the full meaning of suffering. Difficulties can be extreme but they also can be mild depending on the person's experiences. Hence, future research can develop more clear statements that convey the suffering that can be experienced through personal flaws, vulnerabilities, and challenges. It is important to consider, nevertheless, that these labels need to be short to accurately measure reaction time spent responding to the whole set of a given trial, instead of reading long labels. Overall, this study provides the first IRAP designed to measure the factor of common humanity, and hence, should be considered an exploratory step toward developing a valid and reliable measure of self-compassion.

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Appendix A

List of Target and Label Stimuli Used in The Implicit Relational Assessment Procedure (IRAP)

Labels

<p>When I have difficulties, I am...</p> <p>When another person has difficulties, they are...</p>

Targets

Common Humanity	Isolation
Normal	Abnormal
Connected	Cut off
The same as others	Different from others
Human	Flawed
Similar to others	Worse than others
Like others	Unlike others

Vitae

Education

Master's of Science in Psychology, Clinical (Fall 2016-Spring 2018)
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 Washington State University

Dean's List (2012-2014)
 Canisius College

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Psi Chi National Honors Society (2015-present)

Sigma Alpha Pi (2015-present)
The National Society of Leadership and Success

Association For Psychological Sciences (2015-present)

Washington State Psychological Association (2014-2016)