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SUBJECTIVE EXPERIENCE OF EMPATHY IN SCHIZOTYPY ELICITED BY LITERARY
FICTIONAL NARRATIVE

by

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FICTIONAL NARRATIVE

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The elaborate and multidimensional systems that are involved in the personal and subjective experience of empathy are largely unexplored. Nevertheless, when empathy is measured as a static trait there is considerable evidence that individuals diagnosed with schizophrenia and schizotypy demonstrate altered and reduced empathic abilities respectively (Thirioux, 2014). The aim of this study was to investigate the effect that the context of reading literary fiction has on a portion of the process of empathic responding in relation to schizotypal traits, taking into consideration personal factors including current mood. A new measure for the use of momentary assessment of empathy was developed and tested based on the IRI (Davis, 1980) called the AIRI (Adapted Interpersonal Reactivity Index). Psychometric analyses indicate that AIRI is an adequate measure of empathy, particularly for the use of real-time data collection. The internal consistencies of the AIRI scales are comparable to those of the IRI, and in general AIRI scales are correlated with similar IRI scales and with the TEQ as expected. The AIRI Perspective Taking scale has equally low correlations with the Hogan Empathy Scale as the corresponding IRI scale. Results include that, as predicted, the participants' SPQ total scores are positively associated with the Personal Distress scale of the IRI and are not correlated with the IRI Empathic Concern Scale of the IRI. However, contrary to predications, the participants' SPQ total scores were not significantly associated with the Perspective Taking scale of the IRI (although the association was negative, as predicted), and the participants' total SPQ scores were positively correlated with the AIRI Fantasy scale (contrary to prediction). Although there was no control group, there is some evidence that reading a fictional narrative increased Perspective Taking scale scores on the IRI, and results showed a decrease on Fantasy Scale and Personal Distress items on the IRI. Using a piece of literary fictional narrative as a stimulus to elicit empathy holds promise for future studies and suggests including literature, the arts, and the assessment of subjective experiences of schizotypal populations, as the current study's results showed the AIRI to be more highly correlated with the participants SPQ score when compared to the original IRI. We are hopeful that the adapted version of the IRI developed here, when used with real-time elicitation of empathy using a fictional literary narrative, should help to understand state empathy better, highlighting the importance of context, mood, and personal experience in those with varying levels of schizotypal traits, as well as being useful in other research on empathy.

Keywords: AIRI, empathy, Interpersonal Reactivity Index, literary fictional narrative, recovery movement, schizotypy, schizotypal traits, schizophrenia, subjective experience

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SUBJECTIVE EXPERIENCE OF EMPATHY IN SCHIZOTYPY ELICITED BY LITERARY FICTIONAL NARRATIVE

The aim of this study is to determine the effect reading literary fiction has on empathic responses from individuals who possess high schizotypal traits, taking into consideration personal factors. We hope that this could reveal empathic potential that has not been adequately appreciated before and be useful both in research and therapeutically. We examined the four sub-scales of empathy as outlined by the Interpersonal Reactivity Index in the context of the subjective experience of self-rated empathy. We tested and evaluated the validity of a new measure, the Adapted Interpersonal Reactivity Index (AIRI), based on Davis's (1980) Interpersonal Reactivity Index (IRI). This proposed new measure was designed to assess the degree to which an individual endorses statements that reflect his or her level of empathy at the moment. To our knowledge there are not any measures that currently accomplish this task. In order to elicit responses to test the measure psychometrically, and to assess the possible effects of schizotypy on empathic processes, we used a piece of literary fiction with a sample population of participants who were assessed for schizotypal traits. We were also interested in examining the effect that personally identifying with a fictional character in the story, would have on participant's levels of self-reported empathy in this population.

Empathy is an interpersonal process that involves a wide variety of dynamic cognitive and affective states that allow an individual to imagine, understand and to experience what someone else is thinking or feeling (Ingram & Nakazawa, 2003). There is some evidence that both the emotional and cognitive aspects of empathy are supported by distinct neural substrates and are vital for adaptive social functioning (Smith, 2012). Cognitive empathy is described, as the ability to put one's self in the place of another's situation by taking on their perspective (Wang, 2013) while simultaneously maintaining a distinction between the self and others

(Shamay-Tsoory, 2011). Affective empathy refers to the ability to “be with” another person in a shared emotional experience (Ripoll, 2013). Davis (1983) has relied on these two dimensions to characterize empathy further as multidimensional. Davis’ empathy measure, the Interpersonal Reactivity Index (Davis, 1980), assesses four distinct constructs with different subscales: perspective taking and fantasy (cognitive empathy) and empathic concern and personal distress (affective empathy). Davis’ IRI conceptualizes, and measures empathy as a trait-like construct. The IRI asks participants to endorse 28 statements on a five-point Likert scale. The statements are worded to tap a temperamental or characteristic trait such that must they be answered from a dispositional standpoint that emphasizes enduring traits. This may suggest that Davis expected the participant’s endorsements to demonstrate stability of the multifaceted construct across time.

From an affective science perspective, emotions involve elaborate systems that serve an evolutionary function to help provide essential information concerning intra- and inter personal situations (as well as the environment) that we need to navigate adaptively to promote positive outcomes (Kring & Moran, 2008). One of the core aspects in this emotional information processing is empathy; it is widely accepted that empathy and other aspects of social cognition contribute to harmonious functioning in everyday life and are essential for maintaining community relationships (Moreno, 2008, Ripoll, 2013). Empathy and the ability to infer the emotions of others accurately within one’s family as well as ones social community may play an important role in evolutionary fitness (Ickles, 1997). According to the communicative gene hypothesis, the presence of empathy would put an organism at an advantage for “creating and perpetuating the social unit” (Ickles, 1997, p. 19).

Just as empathy has been put forward as a component of normal and adaptive human functioning, individuals diagnosed with schizophrenia and those who show signs of schizotypy,

have been reported to demonstrate altered and reduced empathic abilities respectively (Thirioux, 2014). These reported impairments are also referred to as empathy deficits (Haker, 2012).

Cognitive and affective empathy deficits have been associated with other disorders as well, such as autism spectrum disorders (Goldstein, 2002) and antisocial personality disorder respectively (Mahzarin, 2013, p. 214).

Empathy is Multidimensional

Deutch and Madle (1975) recommend that measurement incorporate the various concepts of empathy (Davis, 1983): “It is only in the recognition that empathy measures may not represent a single construct but rather multiple and perhaps related constructs that more valid measures can be developed than in the past” (Deutsch, & Madle, 1975, p. 277). Research, to be discussed below, that distinguished the differences in types of deficits and the potential consequences of these issues is important when considering the following statement by Mahzarin (2013, p. 214).

“Low affective empathy can leave a person capable of hurting another person, while low cognitive empathy typically just leaves the person confused by others and needing to avoid others. Low cognitive empathy alone does not leave the person uncaring or unemotional toward the plight of others, and nor does it affect their moral development.”

Of particular interest is how Davis’s (1980) dimension of personal distress is related to levels of empathy. Davis (1980) developed an empathy subscale of personal distress as a measure of an individual’s experience of discomfort in reaction to the perception of someone else’s suffering. Preston and de Waall (2002) found that when a person experiences too much discomfort as a result of witnessing another person’s distress, the observing individual’s thought

processes and ability to act may become paralyzed and unable to provide an empathic response even when having an empathic experience or having empathic potential. This may be linked to schizotypal patterns of low observed expressions of empathy (Smith et al., 2011), and may inhibit an individual's level of function within the social unit.

Some personality psychologists have described empathy as a stable trait involving characteristics of intellectual functioning, cognitive style, adjustment social sensitivity, and interpersonal orientation (Ickles, 1997). However, in contrast to the static trait approach, the dynamic processes of empathic experience including affect sharing and mentalizing, (Ickles, 1997) are in need of further research. This study implemented a stimulus designed to parallel this dynamic, since empathic responding is assessed over the course of the reading of a piece of fiction. Investigating the specific pathways by which empathy is elicited and expressed may elucidate the underlying processes involved.

Schizophrenia and Schizotypy

Schizotypy is characterized by a combination of observable symptoms and a latent liability for schizophrenia and some personality characteristics. Meehl (1962) defined *Schizotypy* as a latent psychological and personality organization that results from the "schizotaxic brain" and the interactions with one's environment. According to Meehl's earlier work, a *Schizotype* is one who displays schizotypy, and, the schizotypic behaviors may be present at a sub-clinical level. There is robust evidence showing that schizotypy may be considered a gateway into the prodromal period of schizophrenia (Lenzenweger, 2010). In other words, the symptoms and behaviors associated with schizotypy precede the development of a schizophrenia spectrum disorder in some individuals (Lenzenweger, 2010). Baron (1987) states that clinical subtypes within the schizophrenia spectrum, such as schizotypal personality

disorder, may share a common etiology and tend to present frequently in families of schizophrenia patients; schizotypy in turn is more common in first-degree relatives of those with schizophrenia than in the general population (Johnson, 2003).

There is considerable overlap between the characteristic symptoms of schizophrenia and those of schizotypy. However, in general, schizotypes show lower intensities of symptoms and are non-psychotic. It is important to note that not all individuals with schizotypy are clinically diagnosed with Schizotypal Personality Disorder, nor do they necessarily go on to develop full-blown schizophrenia (Lenzenweger, 2010). Yet, according to Lenzenweger (2010), “all” people with schizophrenia do present schizotypal traits. In a way similar to schizophrenia the presenting symptoms of schizotypy are often categorized into three basic groups: Positive symptoms (e.g., magical ideation, ideas of reference, unusual perceptions), negative symptoms (e.g., anhedonia, avolition, flattened affect), and social anxiety and disorganization. Some studies suggest a possible consideration of a fourth category, paranoid thinking (Suhr, 2001). There is a rich and extensive history of trying to draw connections between signs, symptoms, and social deficits in schizotypy and schizophrenia.

Psychometric Identification of Schizotypy

One of the ways in which researchers have historically measured schizotypy is with the Schizotypal Personality Questionnaire (SPQ). The SPQ was developed by Raine in 1991 to measure DSM-III symptoms of schizotypal personality disorder. The SPQ is a paper and pencil test that assesses an individual’s level of the following schizotypal characteristics: ideas of reference, social anxiety, magical thinking, unusual perceptions, odd behavior, lack of close friends, odd speech, restricted affect and suspiciousness. An aspect of social functioning (lack of close friends) is included in the SPQ, which may be a potential confounding variable in some

types of research. Ideas of reference refer to idiosyncratic thoughts about objects and happenings in the environment. For example someone might believe that hearing a particular song on a radio holds special meaning and believe it was played just for him or her. An example of magical thinking is when an individual holds strong odd beliefs in the occult, including ghosts or paranormal phenomena. In a large sample study only those who scored in the top 10% of total Schizotypal Personality Questionnaire scores qualified for diagnosis of schizotypal personality disorder (Suhr, 2001). Thus, in research in this area, some schizotypal individuals are clinically diagnosed, while others are “psychometrically ascertained” (Johnson, 2003). This study focused on examining correlations between participants’ scores on the SPQ and their multi-dimensional empathy scores.

Advantages Of Studying Schizotypy to Understand Schizophrenia

Looking more closely at the relationship between schizotypy and schizophrenia has a number of benefits. First, undertaking the task of performing research on schizophrenia is daunting. The research literature is complex, dense and spans many disciplines, including psychiatry, psychology, neuroscience, and affective science. Lenzenweger (2010) argues that we need to understand schizotypy better in order to unpack and predict the complex course of schizophrenia. If a house burns down, *post hoc* hypotheses do not provide an investigator with direct evidence. But, if an inspector examined the house (i.e. breaker box) before the fire, he or she may be able to see a potential for danger. This provides two opportunities (1) to understand the mechanism causing the malfunction in the wires and (2) gain insight as to how these problems can be prevented in the future (Lenzenweger, 2010).

This analogy also illustrates the presumed trajectory of schizophrenia. Some evidence supports the claim that most degenerative change in the brain manifests in the first 5 years of the

disorder (Andreasen, 2011), and it has been suggested that this biological change impacts empathic processing (Achim, 2011). Therefore, investigation of the early and prodromal stages of the disorder may provide valuable data collection about an individual's experience before the analogous "fire."

Using Social Functioning as a Guide for Understanding Schizotypy

In efforts to complete understanding of the prodromal period and development of schizophrenia, an interest in the role of social cognition has spawned interest in the differences in social functioning between schizophrenia patients and schizotypal patients, individuals vulnerable to developing schizophrenia, referred to as schizotypal participants, and healthy controls. There is some evidence that cognitive and social functioning become impaired over the course of schizophrenia, and researchers question whether empathy impairments are related to this progression of the disorder. These changes are long-term developmental changes; this paper focuses on short-term changes in response to a literary stimulus. The effects of institutionalization, exposure to psychotropic medication, long-term risk for physical and psychological trauma in some populations, and possible changes in brain matter are largely a mystery and may have already occurred by later stages of development (Lenzenweger, 2010), making study of the origins and precursors of the disorder difficult. Achim et. al (2011) found overall that cognitive empathy declines with the progression of psychosis. By looking at the signs and symptoms of schizotypy, before the possible expression of full-blown symptoms, we are afforded the opportunity to observe and intervene early (Lenzenweger, 2010) and investigate the possible relationship between psychosis, empathy and other psychosocial factors that could help explain this correlation. The current study will provide more information about capacities or strengths of individuals with schizotypal traits. Prevention and early treatment not only benefit

the individual who suffers, but also may reduce hospital stays and minimize the need for high doses of medication. By helping to find a way to curb extreme symptoms, we may also be able to lessen stigma associated with the disorder.

Methodology and Defining Empathy as a Idiosyncratic Process in the Study of Schizotypy

Studies on the experience of empathy in individuals with schizotypy have produced inconsistent findings (Morrison, 2013). While many studies have shown there to be impairments in affective empathy and affective responsiveness in individuals with schizotypy (Ripoll, 2013, Wang, 2013, Henry, 2008, Lenzenweger, 2014), other researchers have not found such impairments (Montag, 2007; Shamay-Tsoory et al, 2007; Fujuwara et al, 2008; Derntl et al., 2009), especially those who have used self-report measures of empathy. Self-reports are one way of exploring empathy using a phenomenological approach. Phenomenological methods in the sciences are necessary to highlight the importance of analyses of data from both an experiential perspective and through objective observation of phenomena. To be able to compare and contrast self-reports and personal narratives with objective observations collected via surveys, should reveal remarkable findings that may have otherwise been overlooked (Caelli, 2000), and van Manen states, (1990), “Human life needs knowledge, reflection, and thought to make itself knowable to itself, including its complex and ultimately mysterious nature” (p. 17). Understanding the methodology and historical roots of phenomenology are imperative to capturing measurement of processes such as empathy, that may not always be behaviorally explicit. This paper is looking for ways to explain the ways to measure what might be a fairly subtle and covert phenomenon.

Although there is consensus among some researchers that there is an empathy dysfunction in schizotypy (Morrison, 2013, Aguirre, 2008, Ripoll, 2013, Wang, 2013), direct evidence is mixed and limited (Bora, 2008). Previous research has found schizotypy to be linked to poor empathic skills but has not historically focused on affective empathy, where an individual can share emotional experiences (Henry, 2008).

However, studies that use the Interpersonal Reactivity Index to examine emotional experience have shown that individuals with schizophrenia report experiencing the emotional component of empathy, sometimes experiencing more intense emotion, in response to evocative positive and negative stimuli that is consistent with the valence of the presented stimuli or situations (Kring & Moran, 2008). This study was geared toward understanding some of the reasons why people with schizophrenia often spontaneously share about feeling sad for friends' misfortunes, grieve for suffering and sick animals, and can have lively and interactive conversations describing how other people feel (anonymous, personal communication, 2014; 2015; 2016) and yet are frequently reported to have empathy deficits in the scientific literature.

Henry et al. (2008) studied how empathy functioned as a mediator in the relationship between negative schizotypy and social functioning. The participants were given the Schizotypal Personality Questionnaire (Raine, 1991), the Empathy Quotient (EQ; Baron-Cohen and Wheelwright, 2004) the Hospital Anxiety and Depression Scale (HADS; Zigmond and Smith, 1983), the Revised Eyes test (Baron-Cohen, 2011), and the Social Functioning Scale (SFS; Birchwood et al., 1990).

The findings showed that higher schizotypy was associated with poorer empathy, poorer self-rated social functioning, and higher negative affect. In this study, negative schizotypy was

the only variable correlated with poorer social function. They also showed positive schizotypy was positively related to cognitive empathy, associated with better self-reported cognitive empathy. In addition, the only empathy variable that influenced social functioning and negative schizotypy was affective empathic functioning (Henry, 2008). In summary, Henry et al. (2008), found schizotypal traits influenced affective and cognitive empathy. Empathy was a causal variable in between schizotypy and lower social functioning, especially in those with negative symptoms.

Empathy Problems and Social Functioning

The consequence for not accurately perceiving and interpreting social cues may have detrimental effects on relationships, especially for those with a predisposition for schizophrenia (Kring & Moran, 2008). Being able to attune well to the thoughts and feelings of others strongly affects individuals' social standing and is correlated with better outcomes for those with a diagnosed mental illness, including schizophrenia (Ripoll, 2013). Henry, Bailey & Rendell (2008) found that low levels of empathy (as assessed by the Empathy Quotient (Baron-Cohen & Wheelwright, 2004)) in schizotypal individuals, were correlated with poor social functioning (as assessed by the Social Functioning Scale (Birchwood et al., 1990)). In addition, impairments in community functioning are associated with diminished aptitude for employment, autonomy and social gains (Smith, 2011).

The troublesome impact of social problems can often times undermine a patient's health even more than psychotic symptoms (Shani Ofir-Eyal, 2014). Kring and Moran (2008), assert, "although individuals with schizophrenia may exhibit micro-expressions these displays are not observable to others and this lack of observable expressive behavior likely has a number of

interpersonal consequences,” including other people’s misinterpreting the schizophrenia patient’s continuous emotional state. Specifically, differences in functioning have been found in those with primarily negative versus positive symptoms (Henry, 2008). Kring and Moran (2008, p. 824) also found that “healthy individuals reported experiencing more fear and sadness, and were themselves, less expressive when they interacted with a person with schizophrenia than when they interacted with another healthy individual.”

Empathy and Social Functioning As Foci for Improving Individual Prognosis in Serious Mental Illness

Successes and failures in relational exchanges appear to be related to the prognosis of the individual (Bora, 2008). Studies show that Theory of Mind interventions, and interventions aiding in emotional recognition, may be helpful in increasing empathic expression related to schizophrenia (Bora, 2008). This may lead to better social interaction. For example, Cognitive Enhancement Therapy (CET) is an empirically supported treatment that produces large effects sizes when measuring changes in neurocognition, processing speed, and social adjustment (Eack, 2007). CET provides patients with cognitive and socially loaded training on a computer. The patients then have an opportunity to practice secondary socialization through spontaneous and “gistful abstraction” (getting the gist of social cues) while receiving encouragement and company from peers (Eack, 2007). A better understanding of empathic activity and social relations may help give a clearer picture of all of the components that sometimes produce a behavioral expression of low empathy.

General Social Functioning and Quality of Life

A largely unstudied area in schizophrenia research is observation and interpretation of relationships in the prodromal phase as well as further stages of development. The lack of study

on relationships in people with severe mental illness should be addressed by asking more questions about how this population experiences their everyday lives and feelings. People develop concepts of self and integrate those concepts into working models that help them make sense of themselves in relationship to others (Bora, 2008). This includes an individual's concept of self, self-worth and how she perceives she fits into the world. These models become a framework for all other relationships and begin to form in early childhood. These relational patterns have been shown to be somewhat consistent across relationships and deserve attention. Strauss (2014) reports that people diagnosed with schizophrenia have voiced concerns about not being asked to express themselves about such themes and may be looking for an opportunity to do so.

Interpersonal relations contribute to an individual's quality of life and over-all fulfillment (Morrison, 2013). The following quotation is from a person diagnosed with schizophrenia, obtained from an online support group and demonstrates the distress caused by lack of fulfilling social relations, "...Why can't I find even one person to be with? I am not going crazy and charging at people. I am not desperate and just dealing with people for the sake of not being alone. I am only keeping my eye out for "the one" ...Someone that I can relate to and that can understand that not everyone fits into a box. I have been alone in every aspect for so long that I don't even know how to relate to anyone at this point.... Can anyone relate? Does anyone have advice?" The preceding quote illustrates a yearning for connection and an understanding that although this individual may have challenges with social relationships, there is a clear desire to have them nonetheless.

For those suffering from schizophrenia deficits in social functioning most likely make an impact on one's personal experience and on the course of the illness. Haker et al. (2012) found that those with schizophrenia self-reported that they had more difficulty with taking the perspective of another person and found themselves to be in significantly distressed when in uncomfortable social situations. They also found that these responses were consistent over a three-year period. Shani Ofir-Eyal (2014, p.51) states, "Impaired empathic cognitive and affective processes make relatively independent contributions to the initiation and maintenance of negative and positive symptoms of schizophrenia and consequently result in reduction in subjective quality of life (SQoL)." In other words, those who have better social abilities generally have a better quality of life. They may also have better prognosis.

Methodological issues in Studying Empathy and Schizotypy

Subjective Reports of Empathy: The Impact of Mood and Affect

In Nezlek's 2001 study of daily variability in empathy, a focal point of interest was examining how different relationships changed when daily empathy was modeled as a joint function of events and mood states. These researchers found that empathy co-varied with daily social events and with daily mood. As with most studies involving daily mood, the PANAS (Nezlek, 2001) was used to assess daily levels of pleasant and unpleasant affect. Nezlek (2001, p. 419) states, "People who are more aware of the feelings of those around them may behave in ways that are consistent with such feelings. Greater awareness of positive feelings may lead to more positive social events, and greater awareness of negative feelings may lead to more negative social events."

In addition, "how empathic a particular person was (or at least perceived him or herself to be) on a particular day was a function of both a trait characteristic (a global measure of

empathy) and a state characteristic (the social events that had transpired during the day).” For this reason, positive and negative affect was also assessed (using the PANAS) in the current study; it was our prediction that those who participated in the study who scored higher on negative aspects of mood would tend to have lower empathy scores on perspective taking and empathic concern.

The Usefulness and Importance of Subjective Experience in Research

Observing the multidimensional, subjective, and phenomenological processes of empathy in those who may have a higher risk of developing schizophrenia could inform an innovative approach for improving prognosis by examining changes over time. Contemporary research that examines precisely the overlap between empathic ability and the developmental trajectory of schizophrenia is in its infancy but holds promise for etiological gains. Suarez states, “Nature and history leave their traces, not just in the configuration of the objects that I encounter, but in the way that I relate to those objects as a subject.” (Suarez, 2016, p.5). The current study aims to assess how people experience empathy after reading a piece of literary narrative fiction by using a new self-report measure (AIRI). In doing so, this research is interested in the participant’s subjective experience involved in empathic feeling and responding, as it might be subject to change rather than based on behaviorally based observations that have historically measured empathy as a static construct. This might allow us to understand and measure empathy more accurately and conceivably lead to new interventions.

Phenomenological research attempts to investigate the notion of viewing our experience or perception objectively (Caelli, 2000). This task is a type of philosophical inquiry and strives to examine the world from a fresh perspective rather than how it is historically “constructed through acculturation” (Caelli, 2000, p. 5). In other words “objectivizing subjectivity as apart

from subjectivising subjectivity.” For this reason it is important to gather data that refrains from primarily reinforcing the popular view. Searching for an explanation or understanding of the phenomenon based on the memory of the experience may be influenced by cultural expectation (Caelli, 2000). Carpenter (1995, p. 35) states, “What is important is the experience as it is presented, not what anyone thinks or says about it.” And: “It is rare for humans to challenge the status quo of the meanings already given to objects in the world. In addition, a subjectivist epistemological position (as that taken in deconstructive research) generally seeks to challenge existing understandings of phenomena, and participants are frequently asked to rethink their own understanding of situations or events. (Caelli, 2000, p.7)” In this paper, the subjectivist position encourages a rethinking the processes of empathy and the influences of environment on them.

Strauss (2014) states, “The course of the disorder is strongly influenced by their subjective feelings of what they need and what they can deal with.” Person centered therapy emphasizes the importance of the subjective feeling experience of the client. Unfortunately, clinical training for psychiatrists and psychologists can often inadvertently ignore a patient’s self-reported experience. Lenzenweger (2010, p. 8) writes that a central theme among his case studies is that “[schizotypal individuals] [all] show minimal displays of emotion, but have a fair amount of anxiety floating around in their inner experience.” The following quotation was taken from a social media site designed to support individuals diagnosed with schizophrenia, and concerns this individual’s experience of emotion: “Emotions are also dulled, but at the same time, there's a deep longing and an existential despair that comes with knowing that this longing, in all likelihood, can never be satiated. As I've gotten older, this has lessened somewhat I feel more 'dead' inside, but deep down it's still there and can be quite tortuous at times.”

In order to access an individual's subjective experience, a method for examining the phenomenological must be obtained. The assumption that subjective experience counts as valid data and is not an argument of "fact vs. fiction" is a premise that must be clarified at the onset of designing a phenomenological study. Suarez states, "Lived in the first-person, one's situation is never merely factual; it is an inherent feature of one's openness to the world...I find myself thrown into a life whose parameters are 'subjective' in the sense that they are always there for me, showing up as the parameters of my life, but not 'subjective' in the sense that I spontaneously create them. My life is always my own to live, but it is always lived in a way that bears the traces of a nature and history that precede me" (Suarez 2016, p.5).

Heidegger called the concrete "situatedness" of our way of existing our "facticity" (Suarez, 2016). The current study is based on the assertion that it is important to examine inner experience, or an individual's facticity in order to understand some of the salient and observable characteristics of schizotypy and how this experience impacts prognosis. This information is crucial to the development of better understanding and cutting edge treatment (Strauss, 2014). Unlike Strauss, some researchers have grown to see an individual's subjective experience such as feelings, thinking and sensations as impossible to measure without bias and debate its utility.

The recovery movement (Davidson, 2005) hopes to see the field of psychiatry and psychology move more toward a "people first" orientation. The term "recovery" has historically referred to static outcomes as opposed to dynamic processes (Davidson, 2005). This may be in part due to the fact that outcomes are easy to measure and processes are not.

Strauss states, as researchers "we badly underestimate the power and importance of this area (subjective experience) and overestimate our ability to appreciate it" (Strauss, 2011). We may want to consider enhancing our own perspective taking as researchers to include self-reports

from schizophrenia patients as they provide self-report data on emotional experience that generates high internal consistency and test re-test reliability, even when assessments take place across changes in symptoms and medication conditions (Kring & Moran, 2008).

Potential Problems and Solutions in Studying Subjective Experience in Schizophrenia

Concerns do arise when interpreting self-reports from schizophrenia patients due to evidence suggesting limited insight or awareness of the illness (Kring & Moran, 2008). Mismatched reports between a psychiatrist rating and the patients' self-rating addressing flat affect and anhedonia lead the patients' report to be considered "less realistic" even though the psychiatrist rating were "not perfectly valid" (Kring & Moran, 2008, p. 825). For example, asking an individual to self-report on his/her ability to experience pleasure or to describe the things they find pleasurable might lead to a different response if asked if he or she attained pleasure immediately after consuming his or her favorite dessert (Kring & Moran, 2008). One explanation for this is to suggest that context, in which questions about emotional experiences are asked, can lead to different responses. Suarez, comments on such experiential diversity. "The central phenomenon, which simultaneously grounds my subjectivity and my transcendence toward the other, consists in the fact that I am given to myself. I am given, which is to say I find myself already situated and engaged in a physical and social world; I am given to myself, which is to say that this situation is never concealed from me, it is never around me like some foreign necessity, and I am never actually enclosed in my situation like an object in a box" (Suarez 2016, p. 5).

According to Strauss (2009), feelings qualify as serious data, and "good science" incorporates good data. Researchers can get access to valuable feelings and experiences of clients by paying attention to an individual's relationship to themselves and how their

relationships may shape their prognosis. Yet, people with schizophrenia are very seldom asked about their personal experiences, unless they are being asked about criteria symptoms. One patient asked his psychiatrist, “Why don’t you ever ask me what I do to help myself?” (Strauss, 2009). And, when patients were asked what was the most important thing contributing to their improvement, their answer was “someone who cared” or “someone who took me seriously.”

The current study was designed to understand better the true experience of the individuals who suffer from this condition in hopes that we will better be able to serve them.

Adapting a Measure (the IRI) to assess Momentary Experiences of Empathy

As noted above, empathy has been found to be an important beneficial and functional process in social cognition and it has been measured in a variety of ways (Miller, 2014). The most common measures used to assess behaviors that we associate with empathy are: the Interpersonal Reactivity Index (Davis, 1980), The Profile of Non-verbal Sensitivity Scale (PONS; Rosenthal et al., 1979, 2011), and the Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004). The IRI is used commonly among schizophrenia researchers (Lehmann, 2014; Thirioux, 2014; Montag, 2007; Smith, 2012; Haker, 2012). The study of trait (dispositional) empathy is well documented (Davis, 1983; Greif & Hogan, 1973; Grover & Brockner, 1989; Mehrabian, Young, & Sato, 1988). The methods for studying empathy as the “ability to experience the feelings of others and the vicarious experience of emotion” (Nezlek, 2001, p. 402) are often concerned with collecting data from individuals across a limited number of situations. Little research has been conducted on the state variability of empathy (Nezlek, 2001). For instance, to say someone is highly empathetic is largely based on context and dependent on the situation and the subjective experience of the individual (Shoda, 2013); this is a

phenomenon in need of further study. The current study developed and tested a new measure that assesses empathy as a dynamic experience that changes based on context and mood.

An adapted measure of empathy to assess real-time reactions provided a new context in which we could gather data on subjective empathic experience. Unfortunately, the mismatch mentioned above between clinician and patient reports evokes the tendency to perceive the report on the part of the patient as flawed; this seems to convey the message that the patient's subjective report is not significant (Kring & Moran, 2008). By creating the AIRI, specifically with the intention of collecting data on phenomenological and subjective experiences, we send the message that it represents good and useful data. It is important to integrate the actual experiences of the person we are trying to understand, the subjective data along with the objective data. For this reason, the new AIRI measure provided a useful tool for collecting self-reports based on a controlled stimulus of literary narrative fiction.

Empathy and Manipulation of Context for the Purposes of this Study

In addition, the environmental circumstances play a role in empathic response and can prompt an individual to consider how they might respond under such circumstances, how they have responded in the past and how others should or have responded, as well (Melloni, 2014). Empathy is a flexible and adaptive process (Melloni, 2014). An individual interacts with perceived situations, and in turn this produces feelings, thoughts, and behaviors that culminate into an empathic response. These responses are somewhat dependent on appropriate processing of the context surrounding perceived events. Empathic processing in such circumstances involves a series of evaluations that require complex cognitive and affective steps, for example assigning blame, establishing responsibility, and other value based judgments (Melloni, 2014).

Research in cognitive science and social neuroscience has revealed context-dependent effects in empathic response and social cognition (Melloni, 2014). Melloni (2014, p. 408) states, “In every empathic process, contextual cues evoke previous experiences allowing for coordination of internal (previous experiences) and external (situation appraisal) processes.” The current research holds that it is important to include a variety of methods for data collection to assess empathic responses as an individual experiences them, as this provides the heterogeneity of contexts needed to further explore this topic.

The Role of A Literary Fictional Narrative in this Study

Further investigation of empathy and taking a closer look at how and when individuals who present with high schizotypal traits, schizotypy or schizophrenia might experience empathy, addresses some of the limitations in the current literature on this topic. Due to the heterogeneous nature of schizophrenia, diagnosed individuals may differ in expression of empathy.

To date there has not been a study with schizotypal or schizophrenia patients using a fictional narrative text to elicit empathy. This study hoped to add to the current body of literature on the topic of empathy by offering a fresh perspective while understanding a potentially innovative way to collect data. Oatley (1999) states that although the psychological impact of reading literary fiction may be difficult to measure because it examines subjective experience, understanding the “inner truths” (Oatley, 1999, p. 101) that arise from reading are of value and do not need to be considered empirical truths. In the experience of reading fiction, personal truths can be highlighted allowing readers to “experience emotion - their own emotion” (Oatley, 1999, p.101).

Literary Reader Response Research

One strand in the study of literature has focused on the reader (Bleich, 1976, 1986). In the 1990s David Miall and Donald Kuiken took this much further, developing questionnaires to gauge readers' emotional responses to texts. In *Literature in the Reader: Affective Stylistics* (1970), Stanley Fish coined the term "affective stylistics" to account for how readers' emotions engage with stylistic elements in a text. Yet the field of psychology empirical literary studies have largely focused on processing and reading comprehension, and have scarcely investigated the experiential aspect of feeling and reflecting (Koopman, 2015).

The current study used primarily psychological metrics (IRI and AIRI) to gather data on the reader response of affect, specifically empathy. In an attempt to bridge the gap between observable behavior (psychometrically ascertained empathy scores) and subjective and phenomenological experience (presumably latent dynamic processes) that reading may produce as a stimulus for empathy measurement. Although the structure of emotional response of reading has been of a great interest in the fields of literary research and literary education, it has not been a major focus in psychology (Goetz, 1992). However, psychologists have argued that research on affect and cognition are best studied together (Clark & Fiske, 1982). Notably the separate study of cognition and affect has been named one of the 12 major struggles of cognitive science (Goetz, 1992). In efforts to bridge this gap studies examining the procedures to measure reader response are growing in number. Some of these methods include semantic differential rating scales, bi-polar rating scales for selected emotional adjectives, and, free-report on emotional response, which are then categorized (Goetz, 1992). The findings produced from using these methods have laid the groundwork for developing theoretical frameworks to include both cognitive and affective experiences.

Cognitive and Emotional Simulations through Fiction

Examination of the phenomenological process of reading should inform the value of cross-disciplinary interaction between the humanities and the sciences. It is noteworthy that the word fiction has come to mean “falsehood” (Oatley, 1999) to many in psychology and assumes that this would have little relevance for psychological research. Yet, In 1998 Gerrig’s book argues that fiction illuminates the cognitive process (Oatley, 1999) Lindauer explains that literature (2009, p.34) “Enrich(es) our experiences, trigger(s) profound feelings, jolt(s) thinking, (can) clarify understanding, influence behavior, make a difference in people’s (lives).”

Ivor Armstrong Richards (Comer, 2013) wanted to develop a theory of how one reads and how one reacts to literature. Richards created a model describing how reading activates areas of the brain that are very far removed from those simply associated with language. For example reading involves an association of sensory memory, distant associations, and emotional reactions. For example, action words activate the language area and motor cortex (as in when you hear the word kick). Sensory words activate parts of the sensory cortex (fuzz on a peach). The notion that a “book is a machine to think with and the brain is an organ of behavior” (Comer, 2013) has fascinated cognitive and affective scientists alike and understanding such a complex activity such as reading leave a lot of unanswered questions. Comer (2013) states,

“...the mysteries of literary art should actually be open to investigation by empirical techniques, but not to the exclusion of traditional and humanistic approaches of reflection on things like meaning, and value, and aesthetics.”

Using the Literary Fictional Narrative: Sarah Cole by Russell Banks

Choosing a method in which we could elicit empathy with a consistent stimulus across participants led to the use of a short story that covered a topic that would have general appeal to

most adults. This proved a solution to the problem of ensuring all participants would have a situation to feel empathy toward. Studies investigating the multifaceted and dynamic process of empathy within an everyday context are on the horizon, but are difficult to control. The short story *Sarah Cole* provided a consistent stimulus that would be experienced by the participant through some sort of relation to the characters. Kohanyi states, fictional characters have the potential to become surrogate characters for real life and suggests "... research topics such as the degree to which literary characters resemble real people, whether fictional characters are completely invented, and whether real people sometimes act like fictional ones" Kohanyi (2010, p.193).

Although determining which features of a text evoke participants' feelings has been studied and a vast variety of individual responses, the process in which readers respond empathically is largely unexplored. Russell Banks's short story "Sarah Cole: A type of love story," has been used to elicit feelings of anger and sadness from participants in a 1996 study by Nundy and Oatley. The following is a description of the story taken from this study. "The narrator (Ron) is a New England lawyer, who thinks of himself as extremely handsome and he describes his relationship with a woman (Sarah) whom he deems very unattractive. At a bar one evening Sarah comes to talk to him, on a dare from her friends. A sexual relationship begins, and lasts a few months. Ron tires of Sarah and cruelly ends the relationship, calling her degrading names. Years later Ron recognizes that he loved Sarah, and feels in retrospect that he (metaphorically) killed her on the evening when he broke up with her. The story is in the words of a first person narrator is an attempt to understand what happened between (him) and Sarah Cole" (Nundy & Oatley, 1996).

In Nundy and Oatley's (1996) study, 22 third-year undergraduates completed a pre-reading emotion diary to record the type, intensity and duration of any emotion they were feeling before reading. They asked participants to individually read the story and then at a certain point, before the relationship with Ron and Sarah becomes explicitly sexual they were asked to stop reading and answer questions about what emotion they were experiencing at that moment in the story. The purpose of their study was to naturally evoke emotions through reading and examine who felt angry after reading, cross-tabulated with whether they engaged in forward chaining (making inferences about the story looking forward) or backward chaining (making inferences about the story looking back) in response to three questions about the story.

Reading may specifically tap affective empathy rather than cognitive empathy because experiencing empathy for fictional characters may not require as much cognitive effort (Keen, 2006). For example, a reader understands a character's goals through an imagined model of his/her mind, and feels something compatible with what the character feels, but the reader does not view himself or herself as that character and as a result sees his/her emotional reaction as his/her own rather than the character's (Mar, 2011).

Oatley (1999, p. 109) states "fiction is a kind of simulation that serves as a coherent form of truth" and that "fiction can be involving." Larsen and Selman (1988) examined the "constructive activities" of readers by asking them to make notes in the margins when a memory occurred during reading; this was named (self-probed retrospection). They found twice as many memories occurred for the reader when the reader was personally involved as an actor reading a fictional text as opposed to an expository non-fiction text. This points to the interactive and dynamic nature of reading as a cognitive process and was addressed in this study by inquiring about participants' personal experience (identification) with the narrative.

Oatley (1999) also describes three psychological processes that can direct the reader to experience particular feelings when reading a fictional narrative (identification, sympathy and autobiographical memory). The current study used a piece of literary fiction to mirror life for the specific goal of eliciting empathy from a participant. Scheff (1979) proposed that in mundane life, emotions can be confusing and difficult to organize and this may affect the recognition of their meaning. Conversely one may “distance themselves and suppress them.” This may leave the reader at a loss for properly processing the informative emotional messages of a significant emotional experience. However, through the re-experiencing of elicited emotions when reading he described this as the “optimal aesthetic distance” at which feelings from an individual’s autobiographical history can be “understood and assimilated” (Scheff,1979).

We chose narrative fiction to elicit emotional response in this study for many reasons. First, to date no other studies have elicited an emotional response from individuals with schizotypal traits or schizophrenia with a literary fictional narrative. Secondly, “Literary fiction events are presented symbolically (through language) rather than representationally (through images and sounds) so readers may have more control over emotional distance” (Mar, 2011 pg. 821); the individual may preserve emotional distance and therefore maintain an affective connection to the situation. Previous studies have used pictures or television to highlight the issues that individuals diagnosed with schizophrenia have with facial emotion recognition, which has been linked to poor levels of interpersonal sensitivity (Miller, 2014). However, in the current study it was anticipated that using a literary fictional narrative would allow for more control over emotional distance and may lead to more regulation over emotion, which could produce different results.

Rationale for the current study

Previous research of empathy in schizotypy and schizophrenia had used either dispositional self-report measures or performance-based measures of global levels of empathy. The question remained to be answered regarding how reading a literary narrative is associated with empathic response. The literary narrative gives us a stimulus to ask in the moment questions about, to use in combination with the AIRI, a measure to collect data on in the moment empathic response, which did not exist yet. If interested in emotion it is necessary to ask about experience in the moment, so we needed momentary phrasing and this measure seemed to be acceptable for this purpose. Furthermore, it was not clear if the multidimensional scales of empathy would hold when gathering self-report of empathic response in the moment. Additionally, the relationship between dispositional empathy and empathy as elicited by a narrative was unknown. This study examined the effects of reading on self-reported levels of empathy in a sample of participants with schizotypal traits, in terms of: levels of personal distress, empathic concern, fantasy (identification with fictional characters) and perspective taking. This study also explored the potential contribution of a new measure, the AIRI, that may be used in future studies to gather momentary assessments of empathy.

Testing the effect of using a fictional literary narrative as a stimulus for eliciting empathy in the moment was important because the stimulus may have had an affect on the level of involvement or “mundane realism” which could not be assessed using a dispositional measure. Giving the participants the opportunity to experience an authentic affective response to a scenario via reading the fictional narrative (which they may feel they identify with) required a surrogate measure of post-event empathy.

It was predicted that the AIRI would be an acceptable measure of empathy for the purposes of this study.

Hypotheses

Hypothesis 1. In the current study it was predicted that high schizotypy scores on the SPQ would be associated with lower levels of empathy on the perspective taking scale of the Interpersonal Reactivity Index. This prediction was made because previous research indicates that difficulty with perspective taking and impaired theory of mind is significant in this population (Montag, 2007, Smith 2012, Derntl, 2008).

Hypothesis 2. Furthermore, it was hypothesized that there would not be an association (Pearson product-moment correlation) between total scores on the SPQ and the Empathic concern Scale or the Fantasy Scale of the IRI. Despite the close relationship between schizotypy and poor perspective taking, individuals with schizotypal traits may still show normal ability to show affective empathy (Montag, 2007, Lehmann, 2014) and become involved with a character in a story.

Hypothesis 3. In addition it was predicted that scores on the SPQ would be positively correlated with empathy scores on the personal distress scale of the Interpersonal Reactivity Index. This was one of the most intriguing questions we wanted to address; could we find a situation (or engineer conditions) where people who endorse high schizotypal traits do *not* show empathy deficit? While other objective assessments of empathy may suggest that individuals with high schizotypal traits score lower on all aspects of empathy (Bora, 2008, Derntl, 2008), it seems that managing personal distress may be more difficult in participants with high schizotypal traits and this would be reflected in higher scores on measures that involve feeling

overwhelmed by the distress of others, leading to higher scores in this area indicating a positive form of empathy (Montag, 2007, Smith, 2012).

Method

Participants

A preliminary power analysis had indicated that 200 participants were needed for an earlier analytic plan for this study. Subsequent analyses, assuming use of the correlation coefficient, an estimated moderate effect size of $r = .30$, and a two-tailed test, in order to have a power of .95, ($\alpha = .05$), the G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009) indicated that the sample size needed to be approximately 135 participants. This study wanted to include a proportion of participants that were not students from a psych 100 class. In the interest of diversity this study aimed to include non-student volunteers, somewhat of a political statement to boost the external validity of the study. A non-student volunteer was anyone over the age of eighteen who was not a psych 100 student participating for credit and would not be receiving credit from the University of Montana. This included individuals who lived in foreign countries, students in attendance at other universities, and anyone who was connected to the social media posts and acted on their own volition to participate. The non-student volunteers had no significant exclusionary criteria and participated based purely on interest in expanding the research knowledge in this field. Although the useable data from non-students was not as robust as we hoped it still showed an effort to not completely rely on a convenience sample.

Table 1. Summary of Demographic Variables

	Total		Student		Public		Statistical Significance ($p < .05$) (<i>t</i> -tests)
	Mean	SD	Mean	SD	Mean	SD	
Age	28.21	12.52	24.65	9.56	40.59	13.77	<.0005
Reported Length of rel (months)	59.89	85.86	40.04	62.22	120.27	116.59	<.0005
	Total		Student		Public		Statistical Significance ($p < .05$) <i>Chi-squared</i> tests for proportions)
	Count	Pct.	Count	Pct.	Count	Pct.	
Gender							
Male	56	28.4	42	27.5	14	31.8	
Female	139	70.6	110	71.9	29	65.9	
Trans- woman	1	0.5	1	.7	0	0	
Trans-man	1	0.5	0	0	1	2.3	
Other	56	28.4					
Ethnicity							
White/non- Hispanic	157	79.7	122	79.7	35	79.5	
Black	3	1.5	3	2.0	0	0.0	
Hispanic	5	2.5	5	3.3	0	0	
Asian or Pacific Islander	10	5.1	8	5.2	2	4.5	
American Indian/AN	4	2.0	4	2.6	0	0	
Two or more ethnicities	14	7.1	9	5.9	5	11.4	
Other	4	2.0	2	1.3	2	4.5	
Parent or Guardian Education level							
Elementary School	1	.5	0	0	1	2.3	.007
High School	34	17.4	30	19.9	4	9.1	
Trade/Tech School	9	4.6	7	4.6	2	4.5	
Some college, but did not graduate	34	17.4	28	18.5	6	13.6	
Associates Degree	13	6.7	12	7.9	1	2.3	
Bachelor's Degree	56	28.7	43	28.5	13	29.5	

	Total		Student		Public		Statistical Significance
	Count	Pct.	Count	Pct.	Count	Pct.	
Master's Degree	35	17.9	26	17.2	9	20.5	
Ph.D/Ed.D/ MD/Law Degree	13	6.7	5	3.3	8	18.2	
Relationship Status							<.0005
Single	81	41.3	70	46.1	11	25.0	
Dating, in a non-committed relationship	11	5.6	9	5.9	2	4.5	
Dating, in a committed relationship	60	30.6	54	35.5	6	13.6	
Married	34	17.3	15	9.9	19	43.2	
Divorced or Separated	9	4.6	4	2.6	5	11.4	
Widowed	1	0.5	0	0	1	2.3	
Residence							<.0005
Residence Halls	45	23.1	45	29.4	0	0	
Sorority or fraternity house	3	1.5	3	2.0	0	0	
Off-Campus University housing	16	8.2	14	9.2	2	4.8	
Home or parent or relative	27	13.8	22	14.4	5	11.9	
Other off Campus housing	104	53.3	69	45.1	35	83.3	
Sexual Orientation							
Straight	165	83.8	132	86.3	33	75.0	
Gay	5	2.5	5	3.3	0	0	
Bisexual	21	10.7	12	7.8	9	20.5	
Other	6	3.0	4	2.6	2	4.5	
Like to read							.031
Yes	168	85.3	126	82.4	42	95.5	
No	29	14.7	27	17.6	2	4.5	

Participants consisted of 196 volunteers from an introduction to psychology participant pool at a Rocky Mountain university and non-student volunteers referred to as the public sample. The public sample link was made available though posting on social media and we were able to

specifically target Facebook groups designed to support those with possible schizoid or schizotypal personality traits. It was our hope that these participants would provide the external realism that seems to often be a critique of psychological research. The public sample was given a link to a separate but identical survey to easily track the participants who would be granted credit and to be able to easily analyze the two samples separately. The public sample and the student sample were analyzed both together and separately. Sixty participants were excluded from data analysis for either not fully completing the questionnaire packet or completing the survey in less than 20 minutes. This seemed an appropriate minimum of time to complete the task, based on pilot testing. Of the 196 participants (public and student combined), 139 were female (70.6%) and 56 were male (28.4%). The mean age was 28.21 (SD = 12.52), and 80% of the sample was white. Other demographic variables are included in Table 1.

Student participants received course credit for their involvement in the study. 168 participants indicated they liked to read (85%). The current study was approved by the Institutional Review Board at the University of Montana.

Measures

All measures were adapted for use using the Qualtrics survey platform and administered online (see Appendix for a listing of the entire survey).

Demographic Survey Form. A demographic form was included to collect relevant demographic information. Demographic information in the form included age, gender, education year, and ethnicity and marital/partner status. Participants could only identify with one ethnicity.

PANAS. The International Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1998) taps state and trait positive and negative mood and is comprised of two 10-item self-report scales. This was found to be valid and internally consistent. The PANAS has

excellent convergent validity (correlations ranging from .89 to .95) and discriminant validity indicated by correlations with scales measuring across constructs that are quite low, ranging from $-.02$ to $-.18$, with lengthier measures of the underlying mood factors. The PANAS scales are internally consistent for Positive Affect, $\alpha = .85$ and for Negative Affect, $\alpha = .91$ and they are moderately correlated with each other $r = -.27$ (Watson, 1998). Scores on the PANAS were calculated using a formula in Microsoft Excel that added up a total score for each subscale and then divided each total subscale score by 10 (the number of items in each subscale).

IRI. The Interpersonal Reactivity Index (Davis, 1980) is a 28-item self-report questionnaire that measures individual difference of empathy based on a multi-dimensional approach. The four 7-item subscales each tap some aspect of the empathy system. The scores on these scales range from -56 to $+56$.

The Perspective-Taking Scale (PT) refers to the tendency to spontaneously adopt the psychological point of view of others; the Fantasy (FS) scale contains items which assess the tendency to put themselves imaginatively into the feelings and behaviors of fictitious characters in books, movies or plays (“I daydream and fantasize, with some regularity, about things that might happen to me.”) The other two subscales measure typical emotional reactions to unfortunate experiences of others.

The Empathic Concern Scale (EC) assesses “other oriented” feelings of sympathy and concern, (“I often have tender, concerned feelings for people less fortunate than me”), and the Personal Distress (PD) scale measures “self-oriented feelings” of inner anxiety and discomfort in tense interpersonal settings, (“Being in a tense emotional situation scares me.”)

The IRI has been used with a considerable number of healthy participants, as well as individuals with schizophrenia (Lehmann et. al, 2014; Thirioux et. al, 2014; Montag et. al, 2007;

Smith et al, 2011; Haker & Rossler, 2009, 2011; Fujiwara, et al, 2008) The IRI is found to be a valid measure (Cronbach's $\alpha = .71$ to $.77$) and adequate reliability ($r = .62$ to $.71$).

AIRI (Adapted Interpersonal Reactivity Index). In order to develop a new measure to assess empathic reactions in response to reading a piece of narrative fiction in real time, we adapted the IRI items to reflect the present tense, without altering the content of the statements. The adapted IRI contains the original four 7-item subscales: Perspective Taking, Empathic Concern, Fantasy and Personal Distress. The adapted IRI items are tailored to inquire about a participant's current reaction (subjective emotional experience) to the short story, and provide information on the individual's empathic experience in more detail. For example, the PT scale item "I believe that there are two sides to every question and try to look at them both" was adapted to read, "I see there are two sides to every question and I am looking at them both." The resulting possible range of values is 1-5. 1= Does not describe me well and 5= Describes me very well. Each question has a score ranging range from 0-4 (except for reversed items). The Qualtrics survey displayed the values for each item and participants indicated the degree to which the statement reflected his or her empathic experience at the moment of completion of reading the short story by choosing the appropriate number on the Likert-scale. Scoring was calculated by taking a total of each subscale; it is important to note that the scale cannot be summed for a global empathy score. Refer to Appendix C for full measure. The AIRI was scored on the same scales as the IRI.

The validity of the AIRI was assessed by evaluation of its factorial structure using confirmatory factor analyses, and convergent validity was evaluated by correlating the AIRI with other empathy measures (The Toronto Empathy Questionnaire and The Hogan Empathy Scale). The internal consistency reliability of the AIRI was assessed using Cronbach's α for the subscales.

Comprehension Questions. The comprehension questions were developed by the researcher to assess the level of commitment to reading the entire story and the participant's ability to understand what they had read. The questions were designed to be simple with a clearly defined correct answer. 1) Sarah Cole is dead is a metaphor 2) Ron is the narrator of the story 3) Ron is sensitive to Sarah's needs when they break up.

Personal Experience with Narrative. In order to assess how personal identification with the characters influenced their scores of empathy participants were asked a series of yes/no selection questions concerning personal experience with the narrative. Participants were asked whether they had ever personally been in a situation similar to that of the narrator or the female protagonist. The participants were asked whether they had ever known another person who has been in the position of narrator or the female protagonist.

SPQ. The Schizotypal Personality Questionnaire (SPQ; Raine, 1991) is a 74-item assessment of DSM-III-R schizotypal personality disorder. It provides an overall measure of individual differences in schizotypal personality together with sub scores for the all nine schizotypal traits; Odd or Eccentric Behavior (Other people see me as slightly eccentric (odd).), Unusual Perceptual Experiences ("Have you often mistaken objects or shadows for people, or noises for voices?"), Excessive Social Anxiety ("I sometimes avoid going to places where there will be many people"), Odd Beliefs or Magical Thinking ("Have you had experiences with the supernatural?") Ideas of Reference ("Do you sometimes feel that things you see on the TV or read in the newspaper have a special meaning for you?"), No Close Friends ("I find it hard to be emotionally close to other people."), Odd Speech ("People sometimes find it hard to understand what I am saying"), Constricted Affect ("People sometimes find me aloof and distant.") Suspiciousness ("I am sure I am being talked about behind my back.")

The development study of the SPQ conducted by Raine (1991) showed that fifty-five percent of subjects scoring in the top 10 percent of SPQ scores had a clinical diagnosis of schizotypal personality disorder. Thus, the SPQ may be useful in screening for possible schizotypal personality disorder in the general population and also in investigating the correlates of individual schizotypal traits (Raine, 1991). A score of 41 on the total score is taken as a rough cutoff for significant schizotypal symptoms. The SPQ scale shows substantial evidence for reliability and validity. The overall scale has high internal consistency reliability (0.90 to 0.91), test-retest reliability (0.82), convergent validity ($r = 0.59$ to 0.81), discriminant validity, and criterion validity ($r = 0.63, 0.68$).

TEQ. The Toronto Empathy Quotient (Spreng, 2009) is a 16-question self-report scale containing a wide variety of variables associated with the cognitive and affective facets of empathy and interpersonal sensitivity and assesses a single factor of general empathic concern. The scale provides a score ranging from 0 to 64, whereby the higher the score reflects a higher level of self-reported emotional concern. The TEQ conceptualizes empathy as a primary emotional process. An example of a positively worded item is “I find that I am “in tune” with other people’s moods.” An example of a negatively worded question is “I become irritated when someone cries.”

The TEQ is a continuous measure with items scored according to the following scale for positively worded items Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4. Negatively worded items are reversed scored. Scores are summed to derive the total for the Toronto Empathy Questionnaire. The TEQ has high internal consistency (Cronbach’s $\alpha = .87$) and adequate test-retest reliability ($r = .81$).

IRI Post. The post IRI items are those with the highest factor loadings on each of the IRI scales (two from each subscale) (Davis, 1980). Scores were pro-rated to make their raw values comparable to the full IRI.

I often have tender, concerned feelings for people less fortunate than me. (EC)

I sometimes find it difficult to see things from the “other guy’s” point of view. (PT)

I try to look at everybody’s side of a disagreement before I make a decision. (PT)

Other people’s misfortunes do not disturb me a great deal. (EC)

After seeing a play or a movie, I have felt as though I were one of the characters. (FS)

I am usually pretty effective in dealing with emergencies. (PD)

When I watch a good movie, I can easily put myself in the place of the leading character.
(FS)

When I see someone who badly needs help in an emergency, I go to pieces. (PD)

HES. The Hogan Empathy Scale (Hogan, 1969) is a 64-item scale composed of 31 items selected from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943), 25 items selected from the California Psychological Inventory (CPI; Gough, 1964) and 8 items created by Hogan and colleagues (“As a rule I have little difficulty in “putting myself into other people's shoes”, “Disobedience to the government is never justified”.) Hogan defines empathy as “the intellectual or imaginative apprehension of another’s condition or state of mind (Hogan, 1969)”, therefore may be considered a measure of cognitive empathy. This was found to be valid measure (Cronbach’s $\alpha = .62$) and adequate reliability ($r = .52$ to $.77$). The version of the HES used in this study had a few items that had modernized wording and was missing two items (from an older version of the MMPI measure) and were not obtained until

after the data were collected. The two missing items are listed in the appendix (see Appendix I). The scores on this shorter scale were pro-rated to provide scores based on a 64-item scale.

Procedure

Participants over the age of 18 were recruited from the UM Psychology participant pool system using the SONA online system. Additional volunteers over the age of 18 who were not students referred to as the public sample, were notified of the link through flyers and social media (see Appendix K). Social media sites such as Facebook provided a free and accessible place to post the link to the public online survey. This also allowed for members of Facebook to share the link with others in their social network. Recruitment via social media permitted posting links to the survey within online groups geared toward supporting individuals with schizophrenia, schizotypal personality disorder, and schizoid personality disorder and their families. This method also allowed participants to easily contact the researcher and share feedback of their experience. Participants accessed the survey at their convenience from their personal computer or any computer with access to the Internet. This study used a non-clinical sample and we did not complete a diagnostic procedure. However, high scorers on the SPQ, according to Raine (1991), are of valuable use in research.

The first page of the online survey asked the participants to provide consent by clicking an acknowledgment button to proceed to the rest of the survey. All the participants were informed of the purpose of the study, consent was obtained, and students who chose not to continue with the study were also given credit. Included in this consent screen, participants were given the opportunity to print a copy of the form to keep for their personal records, which included a list of referrals for them to use in the event that they found the procedures disturbing.

The consent page also provided a means for the student to opt out of the survey and notify the experimenter and still receive full credit. Included in this consent screen, participants will be given the opportunity to print a copy of the form to keep for their personal records, which will include a list of referrals for them to use in the event that they find the procedures disturbing. After providing consent, research participants were guided by the software through an online demographic questionnaire. This questionnaire collected the following information: participants' age, gender, years of education, ethnicity and marital/partner status. Following the demographic questionnaire, participants were asked to complete the following questionnaires, in addition to reading a short story, in order, using Qualtrics.

First, participants completed the International Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1998). This measure was used to examine the mood and affect of the participants before they read the short story, "Sarah Cole", by author Russell Banks. The PANAS was completed first to measure baseline levels of positive and negative affect.

Second, the participants completed the Interpersonal Reactivity Index (IRI) (Davis, 1980), a 28-item self-report questionnaire that measures individual differences in empathy based on a multi-dimensional approach. The subscales tapped some aspects of dispositional empathy. The participants completed the IRI before they read the short story "Sarah Cole," so that their pre-reading (as well as post reading) scores on the IRI could be compared with the post-reading scores on the Adapted Interpersonal Reactivity Index (AIRI).

Next, the participants read the short story "Sarah Cole," by Russell Banks, which was shown as a single document. Participants viewed the story on their screen after following clear instructions to open the story in a separate tab within the Qualtrics survey (see Appendix P). This task was not time-limited, but should have taken the participant approximately 30 minutes.

Any data collected from a participant who finished the entire survey in less than 20 minutes was discarded.

The participants completed the Adapted Interpersonal Reactivity Index (AIRI) using the Qualtrics online survey. The participants rated their own levels of empathy by completing this measure in response to reading the short story “Sarah Cole.” In order to develop a new measure to assess empathic reactions in response to reading a piece of narrative fiction in real time, which we are calling the Adapted Interpersonal Reactivity Index (AIRI), we adapted the IRI items to reflect the present tense, without substantially altering the content of the statements.

In order to assess basic reading comprehension and sufficient reading of the stimulus, the participants were then asked the following three true or false comprehension questions on the Qualtrics online questionnaire: 1) Sarah Cole is dead is a metaphor 2) Ron is the narrator of the story 3) Ron is sensitive to Sarah’s needs when they break up. Next, the participant completed the Personal Experience with Narrative (PEN) measure. The PEN asks a series of yes/no questions concerning participants’ personal experience with the story. Participants were asked whether they have ever personally been in a situation similar to that of the narrator or the female protagonist. The participants were also asked whether they have ever known another person who has been in the position of the narrator or the female protagonist. This measure was created by the researcher and was intended to examine whether empathy is related to identification with another person’s experience.

At this point, the participants completed the International Positive and Negative Affect Scale (PANAS; Watson, Clark, & Tellegen, 1998) for a second time on the online survey (post-reading measurement). Next, participants completed the Schizotypal Personality Questionnaire (SPQ) (Raine, 1991), a 74-item assessment of DSM-III-R schizotypal personality traits. It

provided an overall measure of individual differences in schizotypal personality traits, together with sub-scores for all nine schizotypal traits. Upon analyzing the data this overall score was correlated with the IRI and AIRI scores, as well as other measures in the study.

The participants then completed The Toronto Empathy Quotient (Spreng, 2009), a 16-question self-report scale containing a wide variety of variables associated with the cognitive and affective facets of empathy and interpersonal sensitivity which assesses a single factor of general empathic concern. The scale provided a score ranging from 0 to 64, where the higher scores reflect a higher level of self-reported emotional concern. The TEQ conceptualizes empathy as a primary emotional process. Next, the participants completed another series of questions taken from the IRI (two questions from each subscales) to assess post-reading response to the dispositional measure of empathy.

Finally, the participants completed the Hogan Empathy Scale. This has been found to be a valid measure with adequate reliability. The HES is a 64-item scale composed of 31 items selected from the Minnesota Multiphasic Personality Inventory (MMPI; Hathaway & McKinley, 1943), 25 items selected from the California Psychological Inventory (CPI; Gough, 1964), and 8 items created by Hogan and colleagues.

At the end of the study, the participants were presented with a page with a brief description of the study and another page thanking them for their time and participation at the end of the survey. Participants were awarded credit anonymously through the SONA signup system; any volunteers were not given compensation.

Statistical Analyses

Psychometric analyses. Internal consistency reliabilities of the AIRI as well as the other measures were assessed using Cronbach's *alpha*. In order to evaluate convergent and

discriminant validity of IRI and AIRI scales we used the TEQ and HES and examined their correlations with corresponding and differing IRI/AIRI scales, as well as examining correlations among the IRI and AIRI scales.

Hypothesis 1. It was predicted that there would be a negative (Pearson product-moment) correlation between SPQ scores and Perspective taking scale of the IRI. The degree of which a participant endorsed schizotypal traits was determined on the basis of the participants overall score on the SPQ. *Alpha* was set at .05 for all correlational tests. We used the more conservative two-tailed test.

Hypothesis 2. It was hypothesized that there would not be an association (Pearson product-moment correlation) between total scores on the SPQ and the Empathic concern Scale or the Fantasy Scale of the IRI. Note that this represents predicting the null hypothesis.

Hypothesis 3. It was predicted that there would be a positive (Pearson product-moment) correlation between total scores on the SPQ and the Personal Distress scale on the IRI.

Alpha was set at .05 (two-tailed test) for all correlations. For computed intercorrelations of all of the study measures, see Appendix N.

Exploratory analyses.

An exploratory analysis was conducted concerning the participants' mood before and after reading the story using the PANAS. The other empathy measures were used for concurrent validation of the AIRI. An abbreviated post version of the IRI was given to participants and was used for analyzing pre-post differences. Additional exploratory analyses were conducted concerning gender differences within empathy measures, participants' personal experience with the narrative, and relationship status.

Results

Psychometric analyses of the AIRI

The internal consistency reliabilities of the AIRI compare favorably with the similar subscales on the IRI, except for PD.

Table 2. Means and Standard Deviations and Internal Consistency Reliabilities of the study measures.

	Mean	Std. Deviation	Cronbach's <i>alpha</i>
IRI Fantasy	17.66	5.83	.822
IRI Empathic Concern	20.73	4.36	.768
IRI Perspective Taking	18.39	4.59	.787
IRI Personal Distress	10.03	4.86	.791
IRI-Post Fantasy	16.12	7.70	.871
IRI-Post Empathic Concern	20.56	5.37	.728
IRI-Post Perspective Taking	19.01	5.28	.579
IRI-Post Personal Distress	7.47	5.65	.688
AIRI Fantasy	15.82	6.63	.869
AIRI Empathetic Concern	19.27	4.67	.774
AIRI Perspective Taking	17.78	4.50	.778
AIRI Personal Distress	10.74	4.09	.531
PANAS-Pre Positive	27.42	7.37	.867
PANAS-Pre Negative	14.53	4.97	.283
PANAS-Post Positive	24.72	7.66	.871
PANAS-Post Negative	17.37	6.70	.898
SPQ Total Score	25.75	14.54	.935
SPQ Ideas of Reference	3.65	2.63	.794
SPQ Excessive Social Anxiety	4.41	2.52	.809
SPQ Odd Beliefs or Mag Thinking	1.78	1.86	.724
SPQ Unusual Perceptual Experiences	2.68	2.17	.727

SPQ Odd or Eccentric Behavior	2.43	2.40	.863
SPQ No close friends	2.77	2.38	.769
SPQ Odd Speech	3.51	2.69	.827
SPQ Constricted Affect	2.05	1.88	.695
SPQ Suspiciousness	2.46	2.27	.783
TEQ	46.80	7.39	.873
HES	35.97	5.95	.569

$n = 139-141$

In order to investigate the convergent and discriminant validity of the AIRI, its scales were correlated with both the TEQ (a measure designed to tap affective empathy) and the HES (a measure designed to tap cognitive empathy), as well as with the subscales of the IRI.

We expected the AIRI to be correlated with the IRI on the respective subscales of empathy. The AIRI scales were correlated with the corresponding IRI scales as follows: Fantasy =.63, EC = .61, PT= .56, PD =.52 (see Table 2). The correlations with the non-corresponding scales were generally lower. We used the Toronto Empathy Quotient as a way of comparing the AIRI construct of Affective empathy to the affective subscale, Empathic concern of the IRI and AIRI. Both the IRI and AIRI EC scales are correlated with the TEQ. However the Hogan Empathy scale's correlations with both the PT scale and of the IRI and the AIRI were low. Although the correlations between the IRI and AIRI Perspective Takings scales and the Hogan Empathy Quotient were relatively low, both the IRI and AIRI Perspective Taking scale ($r=.30$ and $r=.29$ respectively), were nearly identical. The Perspective Taking scale on the IRI is considered by some to signify a cognitive empathy subscale, tapping "emotion specific mentalizing" (Bora, 2007) which has been also described as theory of Mind (ToM). The Hogan Empathy scale was developed under the assumption that empathy is an imaginative and intellectual process (Hogan, 1969). For this reason the current study attempted to compare these

two scales. However, the low correlations between the HES, and the presumed cognitive subscales of the IRI and AIRI should not invalidate its utility. The Toronto Empathy Questionnaire represents empathy as a primarily emotional process and for this reasons it was chosen as a corresponding measure with the IRI Empathic Concern Scale (see Table 2).

The adequate convergent correlations and the relatively lower correlations involving non-corresponding scales suggest that the AIRI is a suitable measure of empathy as a multidimensional construct. (See correlations table of empathy measures, Table 3.)

Table 3. Pearson product-intercorrelations among all empathy measures.

	IRI F	IRI EC	IRI PT	IRI PD	AIRI F	AIRI EC	AIRI PT	AIRI PD	TEQ	HES
IRI F	1.00									
IRI EC	0.39**	1.00								
IRI PT	0.27**	0.53**	1.00							
IRI PD	0.09	0.04	-0.18*	1.00						
AIRI F	0.63**	0.28**	0.13	0.23**	1.00					
AIRI EC	0.40**	0.61**	0.38**	0.14	0.59**	1.00				
AIRI PT	0.34**	0.43**	0.56**	-0.03	0.40**	0.56**	1.00			
AIRI PD	0.16*	0.02	-0.18*	0.52**	0.42**	0.28**	0.02	1.00		
TEQ	0.35**	0.73**	0.51**	-0.07	0.33**	0.65**	0.48**	0.01	1.00	
HES	0.31**	0.38**	0.30**	-0.15*	0.14*	0.24**	0.29**	-0.15*	0.36**	1.00

Correlations among corresponding scales of the AIRI are highlighted in bold, as are the coefficients for the TEQ (a measure designed to tap affective empathy) the more affective IRI and AIRI scales (EC), and the HES (a measure designed to tap cognitive empathy) and the more cognitive subscales of the IRI and AIRI (PT).

IRI=Interpersonal Reactivity Index; AIRI=Adapted Interpersonal Reactivity Index; F= Fantasy; EC=Empathic Concern; PT= Perspective Taking; PD= Personal Distress; TEQ= Toronto Empathy Quotient; Hogan Empathy Scale.

* Correlation is significant at the 0.05 level (2-tailed test).

** Correlation is significant at the 0.01 level (2-tailed test).

n = 195 – 197.

Table 4. Pearson product-correlations between the IRI and the AIRI subscales.

	IRI: Perspective taking	IRI: Fantasy	IRI: Empathic concern	IRI: Interpersonal distress
AIRI: Perspective taking	.558**	0.336**	0.431**	-0.027
AIRI: Fantasy	0.129	.632**	0.282**	0.226**
AIRI: Empathic concern	0.377**	0.402**	.606**	0.136
AIRI: personal distress	-0.177**	0.163*	0.016	.515**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

$n = 195 - 197$

Correlations of corresponding AIRI and IRI scales are bolded.

IRI=Interpersonal Reactivity Index; AIRI=Adapted Interpersonal Reactivity Index.

Hypothesis 1.

It was predicted that there would be a negative (Pearson product-moment) correlation between SPQ scores and Perspective taking scale of the IRI. Using a Pearson product-moment correlation (α was set at .05) to assess the relationship, the association, although not statistically significant, was negative ($r = -.133$). We did not find a significant relationship ($p = .063$) between SPQ score and the Perspective taking subscale.

Table 5. Pearson product-correlations between the SPQ and the IRI and AIRI.

	IRI Fantasy	AIRI Fantasy	IRI Empathic Concern	AIRI Empathic Concern	IRI Perspective Taking	AIRI Perspective Taking	IRI Personal Distress	AIRI Personal Distress
SPQ Total Score	.192**	.283**	-0.036	0.051	-0.133	.013	.337**	.333**
SPQ Ideas of Reference	.219**	.317**	0.061	.151*	-0.097	.064	.267**	.283**
SPQ Excessive Social Anxiety	0.105	.230**	-0.024	0.024	-0.073	-.053	.375**	.293**
SPQ Odd Beliefs or Magical Thinking	.185**	.228**	.199**	.188**	.169*	.192**	0.073	0.123
SPQ Unusual Perceptual Experiences	.284**	.278**	0.094	0.140	0.028	.081	0.109	.224**
SPQ Odd or Eccentric Behavior	.192**	.192**	-0.063	0.044	-0.085	.004	.165*	.190**
SPQ No close friends	-0.049	0.056	-.201**	-.166*	-.211**	-1.00	.221**	.169*

	IRI Fantasy	AIRI Fantasy	IRI Empathic Concern	AIRI Empathic Concern	IRI Perspective Taking	AIRI Perspective Taking	IRI Personal Distress	AIRI Personal Distress
SPQ Odd Speech	.190**	.200**	-0.043	0.053	-0.113	.001	.324**	.284**
SPQ Constricted Affect	-0.034	0.066	-.162*	-0.086	-.234**	-.044	.234**	.218**
SPQ Suspiciousness	0.083	.188**	-0.069	-0.023	-.190**	-.035	.274**	.274**

Significant correlations are highlighted in bold.

SPQ=Schizotypal Personality Questionnaire; IRI=Interpersonal Reactivity Index.

Significant correlations between the SPQ and IRI at the .01 level are highlighted in bold

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.005 level (2-tailed).

$n = 194 - 196$

The above table illustrates non-support of Hypothesis 1, as the negative association between the IRI Perspective Taking scale and Total SPQ score is not statistically significant, however it is in the direction expected. Notably, most SPQ scales (except the SPQ Magical Thinking/Odd beliefs scale and Unusual Perceptual Experiences scale) were correlated with the IRI Personal Distress scale.

Hypothesis 2.

It was hypothesized that there would not be an association (Pearson product-moment correlation) between total scores on the SPQ and the Empathic Concern Scale or the Fantasy Scale of the IRI. A Pearson product-moment correlation was used and produced an insignificant association between the total SPQ score and the IRI Empathic concern scale ($p = .615$, $r = -.036$). While this is not sufficient to “prove the null,” this is as predicted. The SPQ score and the IRI Fantasy scale showed a positive association with a small effect size ($r = .192$; $p = .007$) which was not predicted.

Hypothesis 3.

It was predicted that there would be a positive (Pearson product-moment) correlation between total scores on the SPQ and the Personal Distress scale on the IRI. *Alpha* was set at .05.

We used a Pearson product-moment correlation to assess the relationship between the SPQ and the four empathy subscales of the IRI. There was a significant ($p=.0005$) medium sized association ($r=.337$) (at the .001 level, 2-tailed test) between the total SPQ score of and the Personal Distress subscale of the IRI.

Additional Exploratory Analyses

Gender Differences within Empathy Measures

The mean IRI EC score for men was $m = 18.97$ ($SD=5.02$), and for women, $m = 21.40$ ($SD=3.88$; $p<.0005$). The mean scores on the IRI PD were also significantly different between men scores $m=8.7$, and women 10.47 ($p=.021$). The mean scores for men on the PT scale was $m=16.98$ ($SD=5.17$), and for women $m=18.93$ ($SD=4.24$; $p=.007$). The only significant difference on the AIRI was the EC scale with men's scores $m=18.11$, and women's scores $m=19.67$ ($p=.035$). Finally, the scores on the TEQ for men $m= 44.33$ ($SD=8.60$) and women $m=47.62$ ($p=.004$). These findings are expected, as the literature on empathy generally shows females tend to score higher on empathy measures than do males. It is interesting that these differences did not show up as significantly different on the AIRI scale, with the exception of the AIRI EC scale, which may indicate that there may be differences between males and females with respect to answering questions about dispositional qualities, versus self-reported feelings toward another person in the moment.

Gender differences within Schizotypal Personality Questionnaire

The mean score for men on the SPQ Odd or Eccentric behavior scale was 2.98 ($SD=2.42$) and for women $m=2.15$ ($SD=2.32$; $p=.028$). On average men seemed to report more odd or eccentric behavior than women. Men also scored higher on SPQ No Close Friends scale with

$m=3.34$ ($SD=2.39$), and for women $m=2.53$ ($SD=2.35$; $p=.032$). Interpretation of this result could be as a result of different socialization of men and women (see Appendix M for table of means of gender differences). The cutoff score for the SPQ is at a total score of 41. Of the 44 public participants 9% (4/44) scored above the cutoff. In the student sample 9.1% scored above the cutoff (22/131). For the total combined sample 13.2% scored above the cutoff.

Personal Experience with the Narrative

In order to assess how personal identification with the characters might influence their scores of empathy participants were asked a series of yes/no selection questions concerning personal experience with the narrative. Seventy (35.7%) of total participants stated they had personally been in a situation similar to that of the narrator and 71 of total participants (36.2%) stated personal experience as being in a situation similar to the female protagonist. 109 of total participants (55.6%) reported they had known another person who had been in the position of narrator and 121 of total participants (61.7%) reported having known another person in the position of the female protagonist (see table 5). The results showed that this seemed to have little to no effect on the participant's scores on the AIRI. This suggests that personal experience with narrative may not be a necessary for identification or becoming engaged in the story and eliciting empathy. The PEN (Personal Experience with Narrative) questions were created by the researcher and were intended to examine whether empathy is related to identification with another person's experience, however it may be possible that the reader could indeed identify with the characters without having personal real life experience with the story.

Table 6. Personal Experience with Narrative

	Males Yes (Count/Percentage)	Female Yes (Count/Percentage)
Narrator (self)	25 (44.6%)	45 (32.6%)
Female Protagonist (self)	15 (26.8%)	56 (40.6%)
Narrator (other person)	37 (66.1%)	71 (51.4%)
Female Protagonist (other person)	35 (62.5%)	85 (61.6%)

Relationship Status

Understanding social engagement and personal relations was a primary inspiration for further investigation of how individuals with high schizotypal traits experience empathy. To further explore this theme we investigated whether relationship status had an effect on the participants' post-reading AIRI score. We grouped responses to the relationship status demographic question as either single or couple (those who had a response other than single, divorced, or widowed were counted as a couple). Relationship status was not correlated with response on the AIRI.

Before and After Reading the Narrative

Although the IRI is intended as dispositional measure, there were some changes that occurred in scores after participants read the story. The IRI Fantasy scale score decreased significantly. This could indicate effects of the narrative on empathic responding, although this is a pre-post design with no control group. The IRI Perspective Taking scores significantly

increased and IRI Personal Distress scores decreased significantly. The Empathic Concern score did not change significantly. See Table 6.

The PANAS was used to examine mood before and after reading the short story. After reading the story there was a significant decrease in positive affect and a significant increase in negative affect. See Table 7.

Table 7. Mean scores pre and post-narrative and *t*-tests of differences for the IRI (and Brief IRI), PANAS Positive, and PANAS Negative scales.

Scale	Pre		Post		<i>t</i> (<i>df</i>)	<i>p</i>
	Mean	<i>SD</i>	Mean	<i>SD</i>		
IRI Fantasy	17.70	5.84	16.12	7.70	4.41 (194)	<.0005
IRI Empathic Concern	20.75	4.40	20.56	5.37	.70 (191)	NS
IRI Perspective Taking	18.35	4.54	19.01	5.28	2.28 (192)	.024
IRI Personal Distress	10.12	4.83	7.46	5.65	9.38 (191)	<.0005
PANAS Positive	27.41	7.39	24.72	7.66	5.95 (195)	<.0005
PANAS Negative	14.54	4.98	17.30	6.94	6.16 (194)	<.0005

IRI=Interpersonal Reactivity Index. PANAS=Positive and Negative Affect Scale.

Note: The Brief (2 item) IRI scales were given post reading, and the scores were corrected to correspond to the highest loading 7-point subscales of the original IRI.

n =196-197

Discussion

The current study evaluated the potential importance of an individual's SPQ score on their self-reported empathic response on the IRI. First, the findings of this study suggest that there is an association between the participants' SPQ score and their self-reported levels of empathy, particularly amongst the different subscales of empathy as constructed for the IRI.

Scores on the SPQ in relationship to the IRI scores show significant differences in some dimensions of empathy, but not in others. The following results were indicated.

AIRI as a reasonable measure of in the moment Self-Reported Empathy

Psychometric analyses indicate that eliciting empathic response with literary narrative fiction shows promise as a useful tool for differentiating multiple dimensions of empathy in a sample of individuals with varying levels of schizotypal traits. The results supporting our hypotheses add to the current literature regarding self-report questionnaires addressing subjective empathic functioning. Findings of a significant difference of Personal Distress scores on the IRI and the AIRI suggest usefulness of a phenomenological approach.

The correlations found with the TEQ, the HES and the original IRI suggest that the AIRI is a valid and reliable measure of momentary empathy; correlations with non-corresponding scales range from small to medium. This finding supports the importance of self-reports on schizotypal empathic experiences. Of particular interest is that the SPQ correlations on the whole tended to be higher with the AIRI when compared to the SPQ's correlations with the IRI. Since non-multidimensional scales of empathy have historically found schizotypal individuals' empathy scores to be lower than healthy controls when using a global assessment of empathy, these findings should encourage further study of the variables involved in these different results (see Table 5).

Self- Reported Perspective Taking

Despite a number of previous studies finding reduced capacity for perspective taking in schizotypal and schizophrenia patients, the current study did not find a significant negative association between SPQ score and the Perspective Taking scale on the IRI. Montag et. al (2007) revealed a correlation of self-reported liability on the perspective taking scale of the IRI

with illness duration in a cross sectional study. Given the sub-clinical status of our sample it is possible that perspective taking impairments have not manifested due to a lack of progression of pathology in these participants. Achim et al (2007) proposed that subjective cognitive empathic abilities are not impaired at the beginning of the course of illness, but rather incapacities develop over time and found no significant differences on all four subscales of the IRI in a sample of first episode psychosis patients compared to healthy controls.

Self-reported Affective Empathy

As predicted, participants' score on the SPQ was not correlated with the IRI Empathic Concern scale. This finding is consistent with previous literature that showed evidence of participants' impairments in cognitive empathy, but were capable of maintaining affective empathy (Lehmann, 2013). Similar results were found in other studies that showed a schizotypal group to have similar scores to that of a healthy control group in the area of self-reported affective empathy (Haker, 2012). Although attempting to support the null presents problems, the essentially zero correlation for the Empathic concern scale is interesting.

The IRI Fantasy scale has been considered to be a substrate of affective empathy since it tends to correlate more highly with measures of emotionality than with cognitive empathy (Rankin et. al. 2006). In the current study, a positive correlation with a small effect size was found between the participant's SPQ score and the IRI fantasy scale. Interpretation of this finding could be that the AIRI statements were in reference to a direct stimulus involving reading and characters in a story, therefore leading to more salient and accessible experiences of the participants.

Self-reported Personal Distress

In respect to furthering our understanding of situations in which schizotypes may exhibit elevated empathic response, the SPQ score was positively correlated with the personal distress subscale of the IRI. The medium effect size represented by the strength of the correlation between the IRI and the PD scale suggests that this association affirms more self-directed, unpleasant feelings when confronted with others in distress. The pattern of high schizotypal traits and elevated personal distress is consistent with previous studies results (Fujiwara, 2008; Montag, 2007; Smith, 2012; Thirioux, 2014). In regards to this finding, one possible explanation is that schizotypes may have difficulty with self-other differentiation (Decety & Lamm, 2006), which is considered a foundational feature of the empathy process. This could contribute to being easily influenced by others' mood and affect. Moreover, according to Lehmann (2014) patients reportedly showed a greater tendency to 'symbolize emotions by imagination' and described less 'self-control' over expression of emotions.

It seems that the sample participants responded in a way that could be similar to that of a future sample using a clinical population with schizotypal traits and perhaps lead to a stronger (large) correlation coefficient. The comparison of the PRE-IRI scores and the POST abbreviated IRI scores show there were statistically significant differences in responses on the four subscales on the IRI as it was correlated with the total SPQ score. The results showing lower personal distress post -story could suggest that there is indeed an effect on an individual's affective response due to thinking and feeling in response to reading a story. These findings suggest the new measure, AIRI, is sensitive enough to detect empathy that was stimulated in the moment. Finally, the use of literary narrative fiction appears to be a suitable stimulus for affective elicitation of empathy in the moment and significant differences. Future research studies can

apply this measure in other contexts, such as diary entry or ecological momentary assessment studies in order to show dynamic changes in empathic response.

Strengths and Limitations of this study

A significant strength for this study is the attempted validation of a new real-time measure of empathy. A limitation for this study is the inability to currently generalize outside of a sub-clinical sample of undergraduate psychology students. With regard to the validity of the findings the focus is on the subjective experience of empathy as a literary narrative evokes the process of this construct. The self-report measure developed for this study is suitable for measuring this focus. For some studies, a lengthy reading is considered a weakness, but the goal of this study includes studying the process that one experiences as a result of reading a story rather than just a short paragraph and the impact emotional response to reading has on empathic processes. Using the AIRI should be useful in gaining more detailed information about the subjective experience of empathy on a population of individuals who possess high schizotypal traits, in which empathy has been minimally studied, and to date has never before been prompted to report empathic experience by reading a piece of literary fiction.

Participants from Psychology 100 courses were self-selected into this study. This study used a non-clinical sample and we did not complete a diagnostic procedure. However, high scorers on the SPQ according to Raine (1991), are of valuable use in research. The lack of random sampling also impacts the generalizability of this study. However, given that previous literature has indicated that the college students may be a high-risk population (Loranger, 1984), this study provides relevant information regarding this population and schizotypy.

It was a priority in the design of this study to allow the general public to participate in order to address the common problem in psychological research of using undergraduates as the primary participant sample. Although not all of the data was useable, approximately 100 non-student community sample participants logged in to access the public link and volunteered to take the survey. Although geographical demographic information was not collected on the public sample, it is likely that most were from out-of state and there were at least a few international participants.

An additional limitation of this study is a need to consider more factors; including reading comprehension, attention abilities, and previous exposure to literature that may contribute to empathic responses after reading. It would be more informative to consider the impact of these specific cognitive processes in the future.

Conclusion

In conclusion, in order to collect more comprehensive data we needed to find a different measure of interpersonal sensitivity that could assess what others cannot (Miller, 2014). The development of the AIRI was designed to deal with the complexity and multi-dimensional features of empathy for real-time collection of data, needed to continue this line of research. Using a piece of literary fictional narrative as a stimulus to elicit empathy appears to hold promise for future studies to include literature and the arts and the phenomenological subjective experiences of schizotypal populations. The AIRI in communion with real-time elicitation of empathy using literary narrative fiction should help refine these results.

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Appendix A**Demographic Questionnaire****Tell us about yourself.**

1. Did you attend the University of Montana or Missoula College the year following graduating high school?

a. Yes

b. No

2. How many semesters have you attended UM?

3. What is your gender?

a. Male

b. Female

c. Trans-woman

d. Trans-man

e. Other _____

4. How old are you? _____

5. What is your racial/ethnic background?

a. White/non-Hispanic

b. Black

c. Hispanic

d. Asian or Pacific Islander

e. American Indian/Alaska Native

f. Two or more races

g. Other

6. Which of the following is the highest level of education achieved by either of your parents or guardian?

- a. Elementary school
- b. High school
- c. Trade/tech school
- d. Some college, but did not graduate
- e. Associate's degree
- f. Bachelor's degree
- g. Master's degree
- h. Ph.D./Ed.D./law degree

7. What is your current relationship status?

- a. Single
- b. Dating, in a non-committed relationship
- c. Dating, in a committed relationship
- d. Married
- e. Divorced or separated
- f. Widowed

8. (If yes to relationship) How long have you been in this relationship? (in months)

9. Where do you currently live?

- a. Residence Halls
- b. Sorority or fraternity house
- c. Off-campus University housing
- d. Home of parent or relative
- e. Other off-campus housing

10. Which of the following sexual orientations do you most identify with?

- a. Straight
- b. Gay
- c. Bisexual
- d. Other

Appendix B

The PANAS

The Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) PANAS Questionnaire This scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. Indicate to what extent you feel this way right now, that is, at the present moment OR indicate the extent you have felt this way over the past week (circle the instructions you followed when taking this measure)

1	2	3	4	5
Very Slightly or Not at All	A Little	Moderate	Quite a Bit	Extremely

_____ 1. Interested	_____ 11. Irritable
_____ 2. Distressed	_____ 12. Alert
_____ 3. Excited	_____ 13. Ashamed
_____ 4. Upset	_____ 14. Inspired
_____ 5. Strong	_____ 15. Nervous
_____ 6. Guilty	_____ 16. Determined
_____ 7. Scared	_____ 17. Attentive
_____ 8. Hostile	_____ 18. Jittery
_____ 9. Enthusiastic	_____ 19. Active_
_____ 10. Proud	_____ 20. Afraid

Scoring Instructions: Positive Affect Score: Add the scores on items 1, 3, 5, 9, 10, 12, 14, 16, 17, and 19. Scores can range from 10 – 50, with higher scores representing higher levels of positive affect. Negative Affect Score: Add the scores on items 2, 4, 6, 7, 8, 11, 13, 15, 18, and 20. Scores can range from 10 – 50, with lower scores representing lower levels of negative affect

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of personality and social psychology*, 54(6), 1063.

Appendix C

IRI (Davis, 1980) and ADAPTED INTERPERSONAL REACTIVITY INDEX (AIRI)

The following statements inquire about your thoughts and feelings in response to how you are feeling *right now*. For each item, indicate how well it describes *right now* by choosing the appropriate letter on the scale at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter next to the item number. READ EACH ITEM CAREFULLY

BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

A (=1)

B (=2)

C (=3)

D (=4)

E (=5)

DOES NOT DESCRIBE ME WELL

DESCRIBES ME VERY WELL

IRI

AIRI

1. I daydream and fantasize, with some regularity, about things that might happen to me. (FS)	1. I am daydreaming and fantasizing about things that might happen to me.
2. I often have tender, concerned feelings for people less fortunate than me. (EC)	2. I am experiencing tender, concerned feelings for people less fortunate than me.
3. I sometimes find it difficult to see things from the "other guy's" point of view. (PT) (-)	3. I am finding it difficult to see things from the "other guy's" point of view.
4. Sometimes I don't feel very sorry for other people when they are having problems. (EC)(-)	4. I don't feel very sorry for this person when they are having problems.
5. I really get involved with the feelings of the characters in a novel. (FS)	5. I am involved with the feelings of the characters.
6. In emergency situations, I feel apprehensive and ill-at-ease. (PD)	6. This distressing situation is making me feel apprehensive and ill-at-ease.
7. I am usually objective when I watch a movie or play, and I don't often get completely caught up in it. (FS)(-)	7. I feel objective, and I am not completely caught up in this story, movie or play.
8. I try to look at everybody's side of a disagreement before I make a decision. (PT)	8. I am looking at everybody's side of the disagreement before I make a decision.
9. When I see someone being taken advantage of, I feel kind of protective towards them. (EC)	9. I see someone being taken advantage of, I feel kind of protective towards him or her.
10. I sometimes feel helpless when I am in the middle of a very emotional situation. (PD)	10. I feel helpless in the middle of a very emotional situation.
11. I sometimes try to understand my friends better by imagining how things look from their	11. I understand this better by imagining how things looked from their (his or her)

perspective. (PT)	perspective.
12. Becoming extremely involved in a good book or movie is somewhat rare for me. (FS)(-)	12. I don't feel extremely involved in this story or movie.
13. When I see someone get hurt, I tend to remain calm. (PD) (-)	13. Someone got hurt and I feel calm.
14. Other people's misfortunes do not usually disturb me a great deal. (EC) (-)	14. This person's misfortunes do not disturb me a great deal.
15. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (PT)(-)	15. I'm right about something; I don't waste much time listening to other person's arguments.
16. After seeing a play or movie, I have felt as though I were one of the characters. (FS)	16. I feel as though I am one of the characters.
17. Being in a tense emotional situation scares me. (PD)(-)	17. I feel scared; this tense emotional situation scares me.
18. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (EC) (-)	18. I see someone being treated unfairly; I don't feel very much pity for them.
19. I am usually pretty effective in dealing with emergencies. (PD) (-)	19. I feel I am effective in dealing with this distressing situation.
20. I am often quite touched by things that I see happen. (EC)	20. I feel quite touched by what I am seeing.
21. I believe that there are two sides to every question and try to look at them both. (PT)	21. I am looking at both sides of the problem in question.
22. I would describe myself as a pretty soft-hearted person. (EC)	22. I feel pretty soft-hearted.
23. When I watch a good movie, I can very easily put myself in the place of a leading character. (FS)	23. I am very easily imagining myself in the place of one of the characters.
24. I tend to lose control during emergencies. (PD)	24. I am losing control inside while imagining this distressing situation.
25. When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (PT)	25. I am upset at someone, and I am trying to "put myself in their shoes" for a while.
26. When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me. (FS)	26. I am reading an interesting story or novel; I am imagining how I would feel if the events in the story were happening to me.
27. When I see someone who badly needs help in an emergency, I go to pieces. (PD)	27. I see someone who badly needs help in a distressing situation and I am going to pieces.
28. Before criticizing somebody, I try to imagine how I would feel if I were in their place. (PD).	28. I am imagining how I would feel if I were in their place, before feeling critical of them.

Appendix D

Comprehension Questions

True or false comprehension questions on the Qualtrics online questionnaire:

- 1) Sarah Cole is dead is a metaphor
- 2) Ron is the narrator of the story
- 3) Ron is sensitive to Sarah's needs when they break up.

Appendix E

Personal Experience with Narrative

- 1) Have you ever personally been in a situation similar to that of the narrator?
- 2) Have you ever personally been in a situation similar to that of the female protagonist?
- 3) Have ever known another person who has been in the position of narrator?
- 4) Have ever known another person who has been in the position of the female protagonist?

Appendix F**SPQ Schizotypal Personality Questionnaire (Raine, 1991)**

Please answer each item by circling Y (Yes) or N (No). Answer all items even if unsure of your answer. When you have finished, check over each one to make sure you have answered them.

- Y N 1. Do you sometimes feel that things you see on the TV or read in the newspaper have a special meaning for you?
- Y N 2. I sometimes avoid going to places where there will be many people because I will get anxious.
- Y N 3. Have you had experiences with the supernatural?
- Y N 4. Have you often mistaken objects or shadows for people, or noises for voices?
- Y N 5. Other people see me as slightly eccentric (odd).
- Y N 6. I have little interest in getting to know other people.
- Y N 7. People sometimes find it hard to understand what I am saying.
- Y N 8. People sometimes find me aloof and distant.
- Y N 9. I am sure I am being talked about behind my back.
- Y N 10. I am aware that people notice me when I go out for a meal or to see a film.
- Y N 11. I get very nervous when I have to make polite conversation.
- Y N 12. Do you believe in telepathy (mind-reading)?
- Y N 13. Have you ever had the sense that some person or force is around you, even though you cannot see anyone?
- Y N 14. People sometimes comment on my unusual mannerisms and habits.
- Y N 15. I prefer to keep to myself.
- Y N 16. I sometimes jump quickly from one topic to another when speaking.
- Y N 17. I am poor at expressing my true feelings by the way I talk and look.
- Y N 18. Do you often feel that other people may harm you?

- Y N 19. Do some people drop hints about you or say things with a double meaning?
- Y N 20. Do you ever get nervous when someone is walking behind you?
- Y N 21. Are you sometimes sure that other people can tell what you are thinking?
- Y N 22. When you look at a person, or yourself in a mirror, have you ever seen the face change right before your eyes?
- Y N 23. Sometimes other people think that I am a little strange.
- Y N 24. I am mostly quiet when with other people.
- Y N 25. I sometimes forget what I am trying to say.
- Y N 26. I rarely laugh and smile.
- Y N 27. Do you sometimes get concerned that friends or co-workers are not really loyal or trustworthy?
- Y N 28. Have you ever noticed a common event or object that seemed to be a special sign for you?
- Y N 29. I get anxious when meeting people for the first time.
- Y N 30. Do you believe in clairvoyancy (psychic forces, fortune telling)?
- Y N 31. I often hear a voice speaking my thoughts aloud.
- Y N 32. Some people think that I am a very bizarre person.
- Y N 33. I find it hard to be emotionally close to other people.
- Y N 34. I often go off topic when speaking.
- Y N 35. My "non-verbal" communication (smiling and nodding during a conversation) is poor.
- Y N 36. I feel I have to be on my guard even with friends.
- Y N 37. Do you sometimes see special meanings in advertisements, shop windows, or in the way things are arranged around you?
- Y N 38. Do you often feel nervous when you are in a group of unfamiliar people?
- Y N 39. Can other people feel your feelings when they are not there?

- Y N 40. Have you ever seen things invisible to other people?
- Y N 41. Do you feel that there is no-one you are really close to outside of your immediate family, or people you can confide in or talk to about personal problems?
- Y N 42. Some people find me a bit vague and elusive during a conversation.
- Y N 43. I am poor at returning social courtesies and gestures.
- Y N 44. Do you often pick up hidden threats or put-downs from what people say or do?
- Y N 45. When shopping do you get the feeling that other people are taking notice of you?
- Y N 46. I feel very uncomfortable in social situations involving unfamiliar people.
- Y N 47. Have you had experiences with astrology, seeing the future, UFOs, extra-sensory perception, or a sixth sense?
- Y N 48. Do everyday things seem unusually large or small?
- Y N 49. Writing letters to friends is more trouble than it is worth.
- Y N 50. I sometimes use words in unusual ways.
- Y N 51. I tend to avoid eye contact when conversing with others.
- Y N 52. Have you found that it is best not to let other people know too much about you?
- Y N 53. When you see people talking to each other, do you often wonder if they are talking about you?
- Y N 54. I would feel very anxious if I had to give a speech in front of a large group of people.
- Y N 55. Have you ever felt that you are communicating with another person telepathically (by mind-reading)?
- Y N 56. Does your sense of smell sometimes become unusually strong?
- Y N 57. I tend to keep in the background on social occasions.
- Y N 58. Do you tend to wander off the topic when having a conversation?
- Y N 59. I often feel that others are out to get me.
- Y N 60. Do you sometimes feel that other people are watching you?

- Y N 61. Do you ever suddenly feel distracted by distant sounds that you are not normally aware of?
- Y N 62. I attach little importance to having close friends.
- Y N 63. Do you sometimes feel that people are talking about you?
- Y N 64. Are your thoughts sometimes so strong that you can almost hear them?
- Y N 65. Do you often have to keep an eye out to stop people from taking advantage of you?
- Y N 66. Do you feel that you are unable to get "close" to people?
- Y N 67. I am an odd, unusual person.
- Y N 68. I do not have an expressive and lively way of speaking.
- Y N 69. I find it hard to communicate clearly what I want to say to people.
- Y N 70. I have some eccentric (odd) habits.
- Y N 71. I feel very uneasy talking to people I do not know well.
- Y N 72. People occasionally comment that my conversation is confusing.
- Y N 73. I tend to keep my feelings to myself.
- Y N 74. People sometimes stare at me because of my odd appearance.

Appendix G

Toronto Empathy Quotient (Spreng, 2009)

Below is a list of statements. Please read each statement carefully and rate how frequently you feel or act in the manner described. Circle your answer on the response form. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

		Never	Rarely	Sometimes	Often	Always
1.	When someone else is feeling excited, I tend to get excited too	0	1	2	3	4
2.	Other people's misfortunes do not disturb me a great deal	0	1	2	3	4
3.	It upsets me to see someone being treated disrespectfully	0	1	2	3	4
4.	I remain unaffected when someone close to me is happy	0	1	2	3	4
5.	I enjoy making other people feel better	0	1	2	3	4
6.	I have tender, concerned feelings for people less fortunate than me	0	1	2	3	4
7.	When a friend starts to talk about his/her problems, I try to steer the conversation towards something else	0	1	2	3	4
8.	I can tell when others are sad even when they do not say anything	0	1	2	3	4
9.	I find that I am "in tune" with other people's moods	0	1	2	3	4
10.	I do not feel sympathy for people who cause their own serious illnesses	0	1	2	3	4
11.	I become irritated when someone cries	0	1	2	3	4
12.	I am not really interested in how other people feel	0	1	2	3	4
13.	I get a strong urge to help when I see someone who is upset	0	1	2	3	4
14.	When I see someone being treated unfairly, I do not feel very much pity for them	0	1	2	3	4
15.	I find it silly for people to cry out of happiness	0	1	2	3	4
16.	When I see someone being taken advantage of, I feel kind of protective towards him/her	0	1	2	3	4

Scoring: Item responses are scored according to the following scale for positively worded items 1, 3, 5, 6, 8, 9, 13, 16. Never = 0; Rarely = 1; Sometimes = 2; Often = 3; Always = 4. The following negatively worded items are reverse scored: 2, 4, 7, 10, 11, 12, 14, 15. Scores are summed to derive total for the Toronto Empathy Questionnaire.

Appendix H

IRI Post-Reading

The post IRI items are those with the highest factor loadings on each of the IRI scales (two from each subscale) (Davis, 1980). Scores were pro-rated to make their raw values comparable to the full IRI.

I often have tender, concerned feelings for people less fortunate than me. (EC)

I sometimes find it difficult to see things from the “other guy’s” point of view. (PT)

I try to look at everybody’s side of a disagreement before I make a decision. (PT)

Other people’s misfortunes do not disturb me a great deal. (EC)

After seeing a play or a movie, I have felt as though I were one of the characters. (FS)

I am usually pretty effective in dealing with emergencies. (PD)

When I watch a good movie, I can easily put myself in the place of the leading character.
(FS)

When I see someone who badly needs help in an emergency, I go to pieces. (PD)

Appendix I

HES Hogan Empathy Scale (Hogan, 1969)

A. Items in the CPI:

4(T), 8(T), 25 (F), 52(T), 67(F), 79(F), 81(F), 84(T), 86(T), 97-(T), 98(F), 100(T), 127(T), 186(F), 191(T), 194(F), 198(T), 239(T), 247(F), 255(F), 271(F), 275(T), 287(T), 359(T), 361(F), 363(F), 364(F), 403(T), 421(F), 442(F), 463(F).

B. Items in the MMPI:

15(F), 26(F), 57(T), 73(F), 78(T), 79(F), 100(T), 129(F), 170(F), 204(T), 231(T), 244(F), 248(T), 254(T), 327(F), 336(F), 355(T), 372(T), 399(T), 404(F), 407(T), 410(T), 417(F), 463(F), 478(F).

C. Additional 8 Items:

- As a rule I have little difficulty in "putting myself into other people's shoes." (T)
- I have seen some things so sad that I almost felt like crying. (T)
- Disobedience to the government is never justified. (F)
- It is the duty of a citizen to support his country, right or wrong. (F)
- I am usually rather short-tempered with people who come around and bother me with foolish questions. (F)
- I have a pretty clear idea of what I would try to impart to my students if I were a teacher. (T)
- I enjoy the company of strong-willed people. (T)
- I frequently undertake more than I can accomplish. (T)

Missing Items:

64. I feel sure that there is only one true religion (CPI #).

65. When a man is with a woman he is usually thinking about things related to her sex(CPI #)..

66. The trouble with many people is that they don't take things seriously enough(CPI #).

Re-worded items:

63. It is hard for me just to sit still and relax (CPI #).

63. It is hard for me just to sit still and relax (CPI #).

For full list of items, see *link*.

Appendix J***Sarah Cole: A type of love story***

©1984, *The Missouri Review*, 7(3), 95-115.

By Russell Banks

Note: This was presented to participants in double-spaced format.

Here is a scene in which I am the man and my friend Sarah Cole is the woman. I don't mind describing it now, because I'm a decade older and don't look the same now as I did then, and Sarah is dead. That is to say, on hearing this story you might think me vain if I looked the same now as I did then, because I must tell you that I was extremely handsome then. And if Sarah were not dead, you'd think I were cruel, for I must tell you that Sarah was very homely. In fact, she was the homeliest woman I have ever known. Personally, I mean. I've *seen* a few women who were more unattractive than Sarah, but they were clearly freaks of nature or had been badly injured or had been victimized by some grotesque, disfiguring disease. Sarah, however, was quite normal, and I knew her well, because for three and a half months we were lovers.

Here is the scene. You can put it in the present, even though it took place ten years ago, because nothing that matters to the story depends on when it took place, and you can put it in Concord, New Hampshire, even though that is indeed where it took place, because it doesn't matter where it took place, so it might as well be Concord, New Hampshire, a place I happen to know well and can therefore describe with sufficient detail to make the story believable. Around six o' clock on a Wednesday evening in late May a man enters a bar. The place, a cocktail lounge at street level with a restaurant upstairs, is decorated with hanging plants and unfinished wood paneling, butcher-block tables and captain's chairs, with a half dozen darkened, thickly upholstered booths along one wall. Three or four men between the ages of twenty-five and thirty-five are drinking at the bar, and they, like the man who has just entered, wear three piece suits and loosened neckties. They are probably lawyers, young, unmarried lawyers gossiping with their brethren over martinis so as to postpone arriving home alone at their whitewashed townhouse apartments, where they will fix their evening meals in radar ranges and, afterwards, while their TV's chuckle quietly in front of them, sit on their couches and do a little extra work for tomorrow. They are, for the most part, honorable, educated, hard-working, shallow, and moderately unhappy young men. Our man, call him Ronald, Ron, in most ways is like these men, except that he is unusually good-looking, and that makes him a little less unhappy than they. Ron is effortlessly attractive, a genetic wonder, tall, slender, symmetrical, and clean. His flaws, a small mole on the left corner of his square but not-too-prominent chin, a slight excess of blond hair on the tops of his tanned hands, and somewhat underdeveloped buttocks, insofar as they keep him from resembling too closely a men's store mannequin, only contribute to his beauty, for he is beautiful, the way we usually think of a woman as being beautiful. And he is nice, too, the consequence, perhaps, of his seeming not to know how beautiful he is, to men as well as women, to young people, even children, as well as old, to attractive people, who realize immediately that he is so much more attractive than they as not to be competitive with them, as

well as unattractive people, who see him and gain thereby a comforting perspective on those they have heretofore envied for their good looks.

Ron takes a seat at the bar, unfolds the evening paper in front of him, and before he can start reading, the bartender asks to help him, calling him “Sir,” even though Ron has come into this bar numerous times at this time of day, especially since his divorce last fall. Ron got divorced because, after three years of marriage, his wife had chosen to pursue the career that his had interrupted, that of a fashion designer, which meant that she had to live in New York City while he had to continue to live in New Hampshire, where his career had got its start. They agreed to live apart until he could continue his career near New York City, but after a few months, between conjugal visits, he started sleeping with other women, and she started sleeping with other men, and that was that. “No big deal,” he explained to friends, who liked both Ron and his wife, even though he was slightly more beautiful than she. “We really were too young when we got married, college sweethearts. But we’re still best friends,” he assured them. They understood. Most of Ron’s friends were divorced by then too.

Ron orders a scotch and soda, with a twist, and goes back to reading his paper. When his drink comes, before he takes a sip of it, he first carefully finishes reading an article about the recent re-appearance of coyotes in northern New Hampshire and Vermont. He lights a cigarette. He goes on reading. He takes a second sip of his drink. Everyone in the room, the three or four men scattered along the bar, the tall, thin bartender, and several people in the booths at the back, watches him do these ordinary things.

He has got to the classified section, is perhaps searching for someone willing to come in once a week and clean his apartment, when the woman who will turn out to be Sarah Cole leaves a booth in the back and approaches him. She comes up from the side and sits next to him. She’s wearing heavy, tan cowboy boots and a dark brown, suede cowboy hat, lumpy jeans and a yellow tee shirt that clings to her arms, breasts, and round belly like the skin of a sausage. Though he will later learn that she is thirty-eight years old, she looks older by about ten years, which makes her look about twenty years older than he actually is. (It’s difficult to guess accurately how old Ron is, he looks anywhere from a mature twenty-five to a youthful forty, so his actual age doesn’t seem to matter.)

“It’s not bad here at the bar,” she says, looking around. “More light, anyhow. Whatcha readin’?” she asks brightly, planting both elbows on the bar.

Ron looks up from his paper with a slight smile on his lips, sees the face of a woman homelier than any he has ever seen or imagined before, and goes on smiling lightly. He feels himself falling into her tiny, slightly crossed, dark brown eyes, pulls himself back, and studies for a few seconds her mottled, pocked complexion, bulbous nose, loose mouth, twisted and gapped teeth, and heavy but receding chin. He casts a glance over her thatch of dun-colored hair and along her neck and throat, where acne burns against gray skin, and returns to her eyes, and again feels himself falling into her.

“What did you say?” he asks.

She knocks a mentholated cigarette from her pack, and Ron swiftly lights it. Blowing smoke from her large, wing-shaped nostrils, she speaks again. Her voice is thick and nasal, a chocolate-colored voice. "I asked you whatcha readin', but I can see now." She belts out a single, loud laugh. "The paper!"

Ron laughs, too. "The paper! *The Concord Monitor!*" He is not hallucinating, he clearly sees what is before him and admits—no he asserts—to himself that he is speaking to the most unattractive woman he has ever seen, a fact which fascinates him, as if instead he were speaking to the most beautiful woman he has ever seen or perhaps ever will see, so he treasures the moment, attempts to hold it as if it were a golden ball, a disproportionately heavy object which—if he doesn't hold it lightly yet with precision and firmness—will slip from his hand and roll across the lawn to the lip of the well and down, down to the bottom of the well, lost to him forever. It will be merely a memory, something to speak of wistfully and with wonder as over the years the image fades and comes in the end to exist only in the telling. His mind and body waken from their sleepy self-absorption, and all his attention focuses on the woman, Sarah Cole, her ugly face, like a wart hog's, her thick, rapid voice, her dumpy, off-center wreck of a body, and to keep this moment here before him, he begins to ask questions of her, he buys her a drink, he smiles, until soon it seems, even to him, that he is taking her and her life, its vicissitudes and woe, quite seriously.

He learns her name, of course, and she volunteers the information that she spoke to him on a dare from one of the two women still sitting in the booth behind her. She turns on her stool and smiles brazenly, triumphantly, at her friends, two women, also homely (though nowhere as homely as she) and dressed, like her, in cowboy boots, hats and jeans. One of the women, a blond with an underslung jaw and wearing heavy eye makeup, flips a little wave at her, and as if embarrassed, she and the other woman at the booth turn back to their drinks and sip fiercely at straws.

Sarah returns to Ron and goes on telling him what he wants to know, about her job at the Rumford Press, about her divorced husband who was a bastard and stupid and "sick," she says, as if filling suddenly with sympathy for the man. She tells Ron about her three children, the youngest, a girl, in junior high school and boy-crazy, the other two, boys, in high school and almost never at home anymore. She speaks of her children with genuine tenderness and concern, and Ron is touched. He can see with what pleasure and pain she speaks of her children; he watches her tiny eyes light up and water over when he asks their names.

"You're a nice woman," he informs her.

She smiles, looks at her empty glass. "No. No, I'm not. But you're a nice man, to tell me that."

Ron, with a gesture, asks the bartender to refill Sarah's glass. She is drinking white Russians. Perhaps she has been drinking them for an hour or two, for she seems very relaxed, more relaxed than women usually do when they come up and without introduction or invitation speak to him.

She asks him about himself, his job, his divorce, how long he has lived in Concord, but he finds that he is not at all interested in telling her about himself. He wants to know about her, even though what she has to tell him about herself is predictable and ordinary and the way she tells it unadorned and clichéd. He wonders about her husband. What kind of man would fall in love with Sarah Cole?

That scene, at Osgood's Lounge in Concord, ended with Ron's departure, alone, after having bought Sarah's second drink, and Sarah's return to her friends in the booth. I don't know what she told them, but it's not hard to imagine. The three women were not close friends, merely fellow workers at Rumford Press, where they stood at the end of a long conveyor belt day after day packing *TV Guides* into cartons. They all hated their jobs, and frequently after work, when they worked the day shift, they would put on their cowboy hats and boots, which they kept all day in their lockers, and stop for a drink or two on their way home. This had been their first visit to Osgood's, a place that, prior to this, they had avoided out of a sneering belief that no one went there but lawyers and insurance men. It had been Sarah who had asked the others why that should keep them away, and when they had no answer for her, the three had decided to stop at Osgood's. Ron was right, they had been there over an hour when he came in, and Sarah was a little drunk. "Well hafta come in here again," she said to her friends, her voice rising slightly. Which they did, that Friday, and once again Ron appeared with his evening newspaper. He put his briefcase down next to his stool and ordered a drink and proceeded to read the front page, slowly, deliberately, clearly a weary, unhurried, solitary man. He did not notice the three women in cowboy hats and boots in the booth in back, but they saw him, and after a few minutes Sarah was once again at his side. "Hi."

He turned, saw her, and instantly regained the moment he had lost when, the previous night, once outside the bar, he had forgotten about the ugliest woman he had ever seen. She seemed even more grotesque to him now than before, which made the moment all the more precious to him, and so once again he held the moment as if in his hands and began to speak with her, to ask questions, to offer his opinions and solicit hers.

I said earlier that I am the man in this story and my friend Sarah Cole, now dead, is the woman. I think back to that night, the second time I had seen Sarah, and I tremble, not with fear but in shame. My concern then, when I was first becoming involved with Sarah, was merely with the moment, holding onto it, grasping it wholly as if its beginning did not grow out of some other prior moment in her life and my life separately and at the same time did not lead into future moments in our separate lives. She talked more easily than she had the night before, and I listened as eagerly and carefully as I had before, again, with the same motives, to keep her in front of me, to draw her forward from the context of her life and place her, as if she were an object, into the context of mine. I did not know how cruel this was. When you have never done a thing before and that thing is not simply and clearly right or wrong, you frequently do not know if it is a cruel thing, you just go ahead and do it, and maybe later you'll be able to determine whether you acted cruelly. That way you'll know if it was right or wrong of you to have done it in the first place.

While we drank, Sarah told me that she hated her ex-husband because of the way he treated the children. "It's not so much the money," she said, nervously wagging her booted feet

from her perch on the high barstool. "I mean, I get by, barely, but I get them fed and clothed on my own okay. It's because he won't even write them a letter or anything. He won't call them on the phone, all he calls for is to bitch at me because I'm trying to get the state to take him to court so I can get some of the money he's s'posed to be paying for child support. And he won't even think to talk to the kids when he calls. Won't even ask about them."

"He sounds like a bastard," I said.

"He is, he is," she said. "I don't know why I married him. Or stayed married. Fourteen years, for Christ's sake. He put a spell over me or something, I don't know," she said with a note of wistfulness in her voice. "He wasn't what you'd call good-looking."

After her second drink, she decided she had to leave. Her children were at home, it was Friday night and she liked to make sure she ate supper with them and knew where they were going and who they were with when they went out on their dates. "No dates on school nights," she said to me. "I mean, you gotta have rules, you know."

I agreed, and we left together, everyone in the place following us with his or her gaze. I was aware of that, I knew what they were thinking, and I didn't care, because I was simply walking her to her car.

It was a cool evening, dusk settling onto the lot like a gray blanket. Her car, a huge, dark green Buick sedan at least ten years old, was battered, scratched, and almost beyond use. She reached for the door handle on the driver's side and yanked. Nothing. The door wouldn't open. She tried again. Then I tried. Still nothing.

Then I saw it, a V-shaped dent in the left front fender creasing the fender where the door joined it, binding the metal of the door against the metal of the fender in a large crimp that held the door fast. "Someone must've backed into you while you were inside," I said to her.

She came forward and studied the crimp for a few seconds, and when she looked back at me she was weeping. "Jesus, Jesus, Jesus!" she wailed, her large, frog-like mouth wide open and wet with spit, her red tongue flopping loosely over gapped teeth. "I can't pay for this! I *can't!*" Her face was red, and even in the dusky light I could see it puff out with weeping, her tiny eyes seeming almost to disappear behind wet cheeks. Her shoulders slumped, and her hands fell limply to her sides.

Placing my briefcase on the ground, I reached out to her and put my arms around her body and held her close to me, while she cried wetly into my shoulder. After a few seconds, she started pulling herself back together and her weeping got reduced to sniffing. Her cowboy hat had been pushed back and now clung to her head at a precarious, absurdly jaunty angle. She took a step away from me and said, "I'll get in the other side."

"Okay," I said almost in a whisper. "That's fine,"

Slowly, she walked around the front of the huge, ugly vehicle and opened the door on the passenger's side and slid awkwardly across the seat until she had positioned herself behind the steering wheel. Then she started the motor, which came to life with a roar. The muffler was shot.

Without saying another word to me, or even waving, she dropped the car into reverse gear and backed it loudly out of the parking space and headed out the lot to the street.

I turned and started for my car, when I happened to glance toward the door of the bar, and there, staring after me, were the bartender, the two women who had come in with Sarah, and two of the men who had been sitting at the bar. They were lawyers, and I knew them slightly. They were grinning at me. I grinned back and got into my car, and then, without looking at them again, I left the place and drove straight to my apartment.

One night several weeks later, Ron meets Sarah at Osgood's, and after buying her three white Russians and drinking three scotches himself, he takes her back to his apartment in his car—a Datsun fastback coupe that she says she admires—for the sole purpose of making love to her.

I'm still the man in this story, and Sarah is still the woman, but I'm telling it this way because what I have to tell you now confuses me, embarrasses me, and makes me sad, and consequently, I'm likely to tell it falsely. I'm likely to cover the truth by making Sarah a better woman than she actually was, while making myself appear worse than I actually was or am; or else I'll do the opposite, make Sarah worse than she was and me better. The truth is, I was pretty, extremely so, and she was not, extremely so, and I knew it and she knew it. She walked out the door of Osgood's determined to make love to a man much prettier than any she had seen up close before, and I walked out determined to make love to a woman much homelier than any I had made love to before. We were, in a sense, equals.

No, that's not exactly true. (You see? This is why I have to tell the story the way I'm telling it.) I'm not at all sure she feels as Ron does. That is to say, perhaps she genuinely likes the man, in spite of his being the most physically attractive man she has ever known. Perhaps she is more aware of her homeliness than of his beauty, just as he is more aware of her homeliness than of his beauty, for Ron, despite what I may have implied, does not think of himself as especially beautiful. He merely knows that other people think of him that way. As I said before, he is a nice man.

Ron unlocks the door to his apartment, walks in ahead of her, and flicks on the lamp beside the couch. It's a small, single bedroom, modern apartment, one of thirty identical apartments in a large brick building on the heights just east of downtown Concord. Sarah stands nervously at the door, peering in.

“Come in, come in,” he says.

She steps timidly in and closes the door behind her. She removes her cowboy hat, then quickly puts it back on, crosses the living room, and plops down in a blond easy chair, seeming to shrink in its hug out of sight to safety. Ron, behind her, at the entry to the kitchen, places one hand on her shoulder, and she stiffens. He removes his hand.

“Would you like a drink?”

“No ... I guess not,” she says, staring straight ahead at the wall opposite where a large framed photograph of a bicyclist advertises in French the Tour de France. Around a corner, in an alcove off the living room, a silver-gray ten-speed bicycle leans casually against the wall, glistening and poised, slender as a thoroughbred racehorse.

“I don’t know,” she says. Ron is in the kitchen now, making himself a drink. “I don’t know ... I don’t know.”

“What? Change your mind? I can make a white Russian for you. Vodka, cream, Kahlua, and ice, right?”

Sarah tries to cross her legs, but she is sitting too low in the chair and her legs are too thick at the thigh, so she ends, after a struggle, with one leg in the air and the other twisted on its side. She looks as if she has fallen from a great height.

Ron steps out from the kitchen, peers over the back of the chair, and watches her untangle herself, then ducks back into the kitchen. After a few seconds, he returns. “Seriously. Want me to fix you a white Russian?”

“No.”

Ron, again from behind, places one hand onto Sarah’s shoulder, and this time she does not stiffen, though she does not exactly relax, either. She sits there, a block of wood, staring straight ahead.

“Are you scared?” he asked gently. Then he adds, “*I am.*”

“Well, no, I’m not scared.” She remains silent for a moment. “You’re scared? Of what?” She turns to face him but avoids his eyes.

“Well . . . I don’t do this all the time, you know. Bring home a woman I . . .” he trails off.

“Picked up in a bar.”

“No. I mean, I like you, Sarah, I really do. And I didn’t just pick you up in a bar, you know that. We’ve gotten to be friends, you and me.”

“You want to sleep with me?” she asks, still not meeting his steady gaze.

“Yes.” He seems to mean it. He does not take a gulp or even a sip from his drink. He just says, “Yes,” straight out, and cleanly, not too quickly, either, and not after a hesitant delay. A simple statement of a simple fact. The man wants to make love to the woman. She asked him, and he told her. What could be simpler?

“Do you want to sleep with *me*?” he asks.

She turns around in the chair, faces the wall again, and says in a low voice, “Sure I do, but ... it’s hard to explain.”

“What? But what?” Placing his glass down on the table between the chair and the sofa, he puts both hands on her shoulders and lightly kneads them. He knows he can be discouraged from pursuing this, but he is not sure how easily. Having got this far without bumping against obstacles (except the ones he has placed in his way himself), he is not sure what it will take to turn him back. He does not know, therefore, how assertive or how seductive he should be with her. He suspects that he can be stopped very easily, so he is reluctant to give her a chance to try. He goes on kneading her doughy shoulders.

“You and me ... we’re real different.” She glances at the bicycle in the corner.

“A man ... and a woman,” he says.

“No, not that. I mean, different. That’s all. Real different. More than you ... you’re nice, but you don’t know what I mean, and that’s one of the things that makes you so nice. But we’re different. Listen,” she says, “I gotta go. I gotta leave now.”

The man removes his hands and retrieves his glass, takes a sip, and watches her over the rim of the glass, as, not without difficulty, she rises from the chair and moves swiftly toward the door. She stops at the door, squares her hat on her head, and glances back at him.

“We can be friends. Okay?”

“Okay. Friends.”

“I’ll see you again down at Osgood’s, right?”

“Oh, yeah, sure.”

“Good. See you,” she says, opening the door.

The door closes. The man walks around the sofa, snaps on the television set, and sits down in front of it. He picks up a *TV Guide* from the coffee table and flips through it, stops, runs a finger down the listings, stops, puts down the magazine and changes the channel. He does not once connect the magazine in his hand to the woman who has just left his apartment, even though he knows she spends her days packing *TV Guides* into cartons that get shipped to warehouses in distant parts of New England. He’ll think of the connection some other night, but by then the connection will be merely sentimental. It’ll be too late for him to understand what she meant by “different.”

But that’s not the point of my story. Certainly it’s an aspect of the story, the political aspect, if you want, but it’s not the reason I’m trying to tell the story in the first place. I’m trying to tell the story so that I can understand what happened between me and Sarah Cole that summer and early autumn ten years ago. To say we were lovers says very little about what happened; to say we were friends says even less. No, if I’m to understand the whole thing, I have to say the whole thing, for, in the end, what I need to know is whether what happened between me and Sarah Cole was right or wrong. Character is fate, which suggests that if a man can know and then to some degree control his character, he can know and to that same degree control his fate.

But let me go on with my story. The next time Sarah and I were together we were at her apartment in the south end of Concord, a second floor flat in a tenement building on Perley Street. I had stayed away from Osgood's for several weeks, deliberately trying to avoid running into Sarah there, though I never quite put it that way to myself. I found excuses and generated interests in and reasons for going elsewhere after work. Yet I was obsessed with Sarah by then, obsessed with the idea of making love to her, which, because it was not an actual *desire* to make love to her, was an unusually complex obsession. Passion without desire, if it gets expressed, may in fact be a kind of rape, and perhaps I sensed the danger that lay behind my obsession and for that reason went out of my way to avoid meeting Sarah again.

Yet I did meet her, inadvertently, of course. After picking up shirts at the cleaner's on South Main and Perley Streets, I'd gone down Perley on my way to South State and the post office. It was a Saturday morning, and this trip on my bicycle was part of my regular Saturday routine. I did not remember that Sarah lived on Perley Street, although she had told me several times in a complaining way—it's a rough neighborhood, packed dirt yards, shabby apartment buildings, the carcasses of old, half-stripped cars on cinderblocks in the driveways, broken red and yellow plastic tricycles on the cracked sidewalks—but as soon as I saw her, I remembered. It was too late to avoid meeting her. I was riding my bike, wearing shorts and tee shirt, the package containing my folded and starched shirts hooked to the carrier behind me, and she was walking toward me along the sidewalk, lugging two large bags of groceries. She saw me, and I stopped. We talked, and I offered to carry her groceries for her. I took the bags while she led the bike, handling it carefully as if she were afraid she might break it.

At the stoop we came to a halt. The wooden steps were cluttered with half-opened garbage bags spilling eggshells, coffee grounds, and old food wrappers to the walkway. "I can't get the people downstairs to take care of their garbage," she explained. She leaned the bike against the bannister and reached for her groceries.

"I'll carry them up for you," I said. I directed her to loop the chain lock from the bike to the bannister rail and snap it shut and told her to bring my shirts up with her.

"Maybe you'd like a beer?" she said as she opened to door to the darkened hallway. Narrow stairs disappeared in front of me into heavy, damp darkness, and the air smelled like old newspapers.

"Sure," I said and followed her up.

"Sorry there's no light. I can't get them to fix it."

"No matter. I can see you and follow along," I said, and even in the dim light of the hall I could see the large, dark blue veins that cascaded thickly down the backs of her legs. She wore tight, white-duck Bermuda shorts, rubber shower sandals, and a pink sleeveless sweater. I pictured her in the cashier's line at the supermarket. I would have been behind her, a stranger, and on seeing her, I would have turned away and studied the covers of the magazines, *TV Guide*, *People*, *The National Enquirer*, for there was nothing of interest in her appearance that in the hard light of day would not have slightly embarrassed me. Yet here I was inviting myself into her home,

eagerly staring at the backs of her ravaged legs, her sad, tasteless clothing, her poverty. I was not detached, however, was not staring at her with scientific curiosity, and because of my passion, did not feel or believe that what I was doing was perverse. I felt warmed by her presence and was flirtatious and bold, a little pushy, even.

Picture this. The man, tanned, limber, wearing red jogging shorts, Italian leather sandals, a clinging net tee shirt of Scandinavian design and manufacture, enters the apartment behind the woman, whose dough colored skin, thick, short body, and homely, uncomfortable face all try, but fail, to hide themselves. She waves him toward the table in the kitchen, where he sets down the bags and looks good-naturedly around the room. "What about the beer you bribed me with?" he asks. The apartment is dark and cluttered with old, oversized furniture, yard sale and second-hand stuff bought originally for a large house in the country or a spacious apartment on a boulevard forty or fifty years ago, passed down from antique dealer to used furniture store to yard sale to thrift shop, where it finally gets purchased by Sarah Cole and gets lugged over to Perley Street and shoved up the narrow stairs, she and her children grunting and sweating in the darkness of the hallway—overstuffed armchairs and couch, huge, ungainly dressers, upholstered rocking chairs, and in the kitchen, an old maple desk for a table, a half dozen heavy oak dining room chairs, a high, glass-fronted cabinet, all peeling, stained, chipped and squatting heavily on a dark green linoleum floor.

The place is neat and arranged in a more or less orderly way, however, and the man seems comfortable there. He strolls from the kitchen to the living room and peeks into the three small bedrooms that branch off a hallway behind the living room. "Nice place!" he calls to the woman. He is studying the framed pictures of her three children arranged like an altar atop the buffet. "Nice looking kids!" he calls out. They are. Blond, round-faced, clean, and utterly ordinary looking, their pleasant faces glance, as instructed, slightly off camera and down to the right, as if they are trying to remember the name of the capital of Montana.

When he returns to the kitchen, the woman is putting away her groceries, her back to him. "Where's that beer you bribed me with?" he asks again. He takes a position against the doorframe, his weight on one hip, like a dancer resting. "You sure are quiet today, Sarah," he says in a low voice. "Everything okay?"

Silently, she turns away from the grocery bags, crosses the room to the man, reaches up to him, and holding him by the head, kisses his mouth, rolls her torso against his, drops her hands to his hips and yanks him tightly to her, and goes on kissing him, eyes closed, working her face furiously against his. The man places his hands on her shoulders and pulls away, and they face each other, wide-eyed, as if amazed and frightened. The man drops his hands, and the woman lets go of his hips. Then, after a few seconds, the man silently turns, goes to the door, and leaves. The last thing he sees as he closes the door behind him is the woman standing in the kitchen doorway, her face looking down and slightly to one side, wearing the same pleasant expression on her face as her children in their photographs, trying to remember the capital of Montana.

Sarah appeared at my apartment door the following morning, a Sunday, cool and rainy. She had brought me the package of freshly laundered shirts I'd left in her kitchen, and when I opened the door to her, she simply held the package out to me as if it were a penitent's gift. She wore a yellow rain slicker and cap and looked more like a disconsolate schoolgirl facing an

angry teacher than a grown woman dropping a package off at a friend's apartment. After all, she had nothing to be ashamed of.

I invited her inside, and she accepted my invitation. I had been reading the Sunday *New York Times* on the couch and drinking coffee, lounging through the gray morning in bathrobe and pajamas. I told her to take off her wet raincoat and hat and hang them in the closet by the door and started for the kitchen to get her a cup of coffee, when I stopped, turned, and looked at her. She closed the closet door on her yellow raincoat and hat, turned around, and faced me.

What else can I do? I must describe it. I remember that moment of ten years ago as if it occurred ten minutes ago, the package of shirts on the table behind her, the newspapers scattered over the couch and floor, the sound of windblown rain washing the sides of the building outside, and the silence of the room, as we stood across from one another and watched, while we each simultaneously removed our own clothing, my robe, her blouse and skirt, my pajama top, her slip and bra, my pajama bottom, her underpants, until we were both standing naked in the harsh, gray light, two naked members of the same species, a male and a female, the male somewhat younger and less scarred than the female, the female somewhat less delicately constructed than the male, both individuals pale-skinned with dark thatches of hair in the area of their genitals, both individuals standing slackly, as if a great, protracted tension between them had at last been released.

We made love that morning in my bed for long hours that drifted easily into afternoon. And we talked, as people usually do when they spend half a day or half a night in bed together. I told her of my past, named and described the people I had loved and had loved me, my ex-wife in New York, my brother in the Air Force, my father and mother in their condominium in Florida, and I told her of my ambitions and dreams and even confessed some of my fears. She listened patiently and intelligently throughout and talked much less than I. She had already told me many of these things about herself, and perhaps whatever she had to say to me now lay on the next inner circle of intimacy or else could not be spoken of at all.

During the next few weeks we met and made love often and always at my apartment. On arriving home from work, I would phone her, or if not, she would phone me, and after a few feints and dodges, one would suggest to the other that we get together tonight, and a half hour later she'd be at my door. Our love-making was passionate, skillful, kindly, and deeply satisfying. We didn't often speak of it to one another or brag about it, the way some couples do when they are surprised by the ease with which they have become contented lovers.

We did occasionally joke and tease each other, however, playfully acknowledging that the only thing we did together was make love but that we did it so frequently there was no time for anything else.

Then one hot night, a Saturday in August, we were lying in bed atop the tangled sheets, smoking cigarettes and chatting idly, and Sarah suggested that we go out for a drink.

"Now?"

"Sure. It's early. What time is it?"

I scanned the digital clock next to the bed. “Nine-forty-nine.”

“There. See?”

“That’s not so early. You usually go home by eleven, you know. It’s almost ten.”

“No, it’s only a little after nine. Depends on how you look at things. Besides, Ron, it’s Saturday night. Don’t you want to go out and dance or something? Or is this the only thing you know how to do?” she teased and poked me in the ribs. “You know how to dance? You like to dance?”

“Yeah, sure . . . sure, but not tonight. It’s too hot. And I’m tired.”

But she persisted, happily pointing out that an air-conditioned bar would be cooler than my apartment, and we didn’t have to go to a dance bar, we could go to Osgood’s. “As a compromise,” she said.

I suggested a place called the El Rancho, a restaurant with a large, dark cocktail lounge and dance bar located several miles from town on the old Portsmouth highway. Around nine the restaurant closed and the bar became something of a roadhouse, with a small country-western house band and a clientele drawn from the four or five villages that adjoined Concord on the north and east. I had eaten at the restaurant once but had never gone to the bar, and I didn’t know anyone who had.

Sarah was silent for a moment. Then she lit a cigarette and drew the sheet over her naked body. “You don’t want anybody to know about us, do you? Do you?”

“That’s not it . . . I just don’t like gossip, and I work with a lot of people who show up sometimes at Osgood’s. On a Saturday night especially.”

“No,” she said firmly. “You’re ashamed of being seen with me. You’ll sleep with me, but you won’t go out in public with me.”

“That’s not true, Sarah.”

She was silent again. Relieved, I reached across her to the bed table and got my cigarettes and lighter.

“You owe me, Ron,” she said suddenly, as I passed over her. “You owe me.”

“What?” I lay back, lit a cigarette, and covered my body with the sheet.

“I said, “You owe me.””

“I don’t know what you’re talking about, Sarah. I just don’t like a lot of gossip going around, that’s all. I like keeping my private life private, that’s all. I don’t owe you anything.”

“Friendship you owe me. And respect. Friendship and respect. A person can’t do what you’ve done with me without owing them friendship and respect.”

“Sarah, I really don’t know what you’re talking about,” I said. “I am your friend, you know that. And I respect you. I really do.”

“You really think so, don’t you?”

“Yes.”

She said nothing for several long moments. Then she sighed and in a low, almost inaudible voice said, “Then you’ll have to go out in public with me. I don’t care about Osgood’s or the people you work with, we don’t have to go there or see any of them,” she said. “But you’re gonna have to go to places like the El Rancho with me, and a few other places I know, too, where there’s people *I* work with, people *I* know, and maybe well even go to a couple of parties, because *I* get invited to parties sometimes, you know. I have friends, and I have some family, too, and you’re gonna have to meet my family. My kids think I’m just going around bar-hopping when I’m over here with you, and I don’t like that, so you’re gonna have to meet them so I can tell them where I am when I’m not at home nights. And sometimes you’re gonna come over and spend the evening at my place!” Her voice had risen as she heard her demands and felt their rightness, until now she was almost shouting at me. “You *owe* that to me. Or else you’re a bad man. It’s that simple.”

It was.

The handsome man is over-dressed. He is wearing a navy blue blazer, taupe shirt open at the throat, white slacks, white loafers. Everyone else, including the homely woman with the handsome man, is dressed appropriately, dressed, that is, like everyone else—jeans and cowboy boots, blouses or cowboy shirts or tee shirts with catchy sayings printed across the front, and many of the women are wearing cowboy hats pushed back and tied under their chins. The man doesn’t know anyone at the bar or, if they’re at a party, in the room, but the woman knows most of the people there, and she gladly introduces him. The men grin and shake his hand, slap him on his jacketed shoulder, ask him where he works, what’s his line, after which they lapse into silence. The women flirt briefly with their faces, but they lapse into silence even before the men do. The woman with the man in the blazer does most of the talking for everyone. She talks for the man in the blazer, for the men standing around the refrigerator, or if they’re at a bar, for the other men at the table, and for the other women, too. She chats and rambles aimlessly through loud monologues, laughs uproariously at trivial jokes, and drinks too much, until soon she is drunk, thick-tongued, clumsy, and the man has to say her goodbyes and ease her out the door to his car and drive her home to her apartment on Perley Street.

This happens twice in one week, and then three times the next—at the El Rancho, at the Ox Bow in Northwood, at Rita’s and Jimmy’s apartment on Thorndike Street, out in Warner at Betsy Beeler’s new house, and, the last time, at a cottage on Lake Sunapee rented by some kids in shipping at Rumford Press. Ron no longer calls Sarah when he gets home from work; he waits for her call, and sometimes, when he knows it’s she, he doesn’t answer the phone. Usually, he lets it ring five or six times, and then he reaches down and picks up the receiver. He has taken his jacket and vest off and loosened his tie and is about to put supper, frozen manicotti, into the radar range.

“Hello?”

“Hi.”

“How’re you doing?”

“Okay, I guess. A little tired.”

“Still hung-over?”

“No. Not really. Just tired I hate Mondays.”

“You have fun last night?”

“Well, yeah, sorta. It’s nice out there, at the lake. Listen,” she says, brightening. “Whyn’t you come over here tonight? The kids’re all going out later, but if you come over before eight, you can meet them. They really want to meet you.”

“You told them about me?”

“Sure. Long time ago. I’m not supposed to tell my own kids?”

Ron is silent.

“You don’t want to come over here tonight. You don’t want to meet my kids. No, you don’t want my kids to meet you, that ‘s it.”

“No, no, it’s just ... I’ve got a lot of work to do...”

“We should talk,” she announces in a flat voice.

“Yes,” he says, “we should talk.”

They agree that she will meet him at his apartment, and they’ll talk, and they say goodbye and hang up.

While Ron is heating his supper and then eating alone at his kitchen table and Sarah is feeding her children, perhaps I should admit, since we are nearing the end of my story, that I don’t actually know that Sarah Cole is dead. A few years ago I happened to run into one of her friends from the press, a blond woman with an under-slung jaw. Her name, she reminded me, was Glenda, she had seen me at Osgood’s a couple of times and we had met at the El Rancho once when I had gone there with Sarah. I was amazed that she could remember me and a little embarrassed that I did not recognize her at all, and she laughed at that and said, “You haven’t changed much, mister!” I pretended to recognize her, but I think she knew she was a stranger to me. We were standing outside the Sears store on South Main Street, where I had gone to buy paint. I had recently remarried, and my wife and I were redecorating my apartment.

“Whatever happened to Sarah?” I asked Glenda. “Is she still down at the press?”

“Jeez, no! She left a long time ago. Way back. I heard she went back with her ex-husband. I can’t remember his name. Something Cole.”

I asked her if she was sure of that, and she said no, she had only heard it around the bars and down at the press, but she had assumed it was true. People said Sarah had moved back with her ex-husband and was living in a trailer in a park near Hooksett, and the whole family had moved down to Florida that winter because he was out of work. He was a carpenter, she said.

“I thought he was mean to her. I thought he beat her up and everything. I thought she hated him,” I said.

“Oh, well, yeah, he was a bastard, all right. I met him a couple of times, and I didn’t like him. Short, ugly, and mean when he got drunk. But you know what they say.”

“What do they say?”

“Oh, you know, about water seeking its own level.”

“Sarah wasn’t mean when she was drunk.”

The woman laughed. “Naw, but she sure was short and ugly!”

I said nothing.

“Hey, don’t get me wrong, I liked Sarah. But you and her ... well, you sure made a funny-looking couple. She probably didn’t feel so self-conscious and all with her husband,” the woman said seriously. “I mean, with you ... all tall and blond, and poor old Sarah ... I mean, the way them kids in the press room used to kid her about her looks, it was embarrassing just to hear it.”

“Well ... I loved her,” I said.

The woman raised her plucked eyebrows in disbelief. She smiled. “Sure, you did, honey,” she said, and she patted me on the arm. “Sure, you did.” Then she let the smile drift off her face, turned and walked away.

When someone you have loved dies, you accept the fact of his or her death, but then the person goes on living in your memory, dreams and reveries. You have imaginary conversations with him or her, you see something striking and remind yourself to tell your loved one about it and then get brought up short by the knowledge of the fact of his or her death, and at night, in your sleep, the dead person visits you. With Sarah, none of that happened. When she was gone from my life, she was gone absolutely, as if she had never existed in the first place. It was only later, when I could think of her as dead and could come out and say it, my friend Sarah Cole is dead, that I was able to tell this story, for that is when she began to enter my memories, my dreams, and my reveries. In that way I learned that I truly did love her, and now I have begun to grieve over her death, to wish her alive again, so that I can say to her the things I could not know or say when she was alive, when I did not know that I loved her.

The woman arrives at Ron’s apartment around eight. He hears her car, because of the broken muffler, blat and rumble into the parking lot below, and he crosses quickly from the kitchen and peers out the living room window and, as if through a telescope, watches her shove herself across the seat to the passenger’s side to get out of the car, then walk slowly in the dusky light toward the apartment building. It’s a warm evening, and she’s wearing her white Bermuda shorts, pink sleeveless sweater, and shower sandals. Ron hates those clothes. He hates the way

the shorts cut into her flesh at the crotch and thigh, hates the large, dark caves below her arms that get exposed by the sweater, hates the flapping noise made by the sandals.

Shortly, there is a soft knock at his door. He opens it, turns away and crosses to the kitchen, where he turns back, lights a cigarette, and watches her. She closes the door. He offers her a drink, which she declines, and somewhat formally, he invites her to sit down. She sits carefully on the sofa, in the middle, with her feet close together on the floor, as if she were being interviewed for a job. Then he comes around and sits in the easy chair, relaxed, one leg slung over the other at the knee, as if he were interviewing her for the job.

“Well,” he says, “you wanted to talk.”

“Yes. But now you’re mad at me. I can see that. I didn’t do anything, Ron.”

“I’m not mad at you.”

They are silent for a moment. Ron goes on smoking his cigarette.

Finally, she sighs and says, “You don’t want to see me anymore, do you?”

He waits a few seconds and answers, “Yes. That’s right.” Getting up from the chair, he walks to the silver-gray bicycle and stands before it, running a fingertip along the slender cross-bar from the saddle to the chrome plated handlebars.

“You’re a son of a bitch,” she says in a low voice. “You’re worse than my ex-husband.” Then she smiles meanly, almost sneers, and soon he realizes that she is telling him that she won’t leave. He’s stuck with her, she informs him with cold precision. “You think I’m just so much meat, and all you got to do is call up the butcher shop and cancel your order. Well, now you’re going to find out different. You *can’t* cancel your order. I’m not meat, I’m not one of your pretty little girlfriends who come running when you want them and go away when you get tired of them. I’m *different*. I got nothing to lose, Ron. Nothing. You’re stuck with me, Ron.” He continues stroking his bicycle. “No, I’m not.”

She sits back in the couch and crosses her legs at the ankles. “I think I *will* have that drink you offered.”

“Look, Sarah, it would be better if you go now.”

“No,” she says flatly. “You offered me a drink when I came in. Nothing’s changed since I’ve been here. Not for me, and not for you. I’d like that drink you offered,” she says haughtily.

Ron turns away from the bicycle and takes a step toward her. His face has stiffened into a mask. “Enough is enough,” he says through clenched teeth. “I’ve given you enough.”

“Fix me a drink, will you, honey?” she says with a phony smile.

Ron orders her to leave.

She refuses.

He grabs her by the arm and yanks her to her feet.

She starts crying lightly. She stands there and looks up into his face and weeps, but she does not move toward the door, so he pushes her. She regains her balance and goes on weeping.

He stands back and places his fists on his hips and looks at her. "Go on and leave, you ugly bitch," he says to her, and as he says the words, as one by one they leave his mouth, she's transformed into the most beautiful woman he has ever seen. He says the words again, almost tenderly. "Leave, you ugly bitch." Her hair is golden, her brown eyes deep and sad, her mouth full and affectionate, her tears the tears of love and loss, and her pleading, outstretched arms, her entire body, the arms and body of a devoted woman's cruelly rejected love. A third time he says the words. "Leave me, you disgusting, ugly bitch." She is wrapped in an envelope of golden light, a warm, dense haze that she seems to have stepped into, as into a carriage. And then she is gone, and he is alone again.

He looks around the room, as if searching for her. Sitting down in the easy chair, he places his face in his hands. It's not as if she has died; it's as if he has killed her.

Appendix L**Sample wording on posting as shared on social media**

Be a part of my research and click the link below! You will be asked to read a short story (takes about 30 min) and answer interesting questions about yourself. Anybody and everybody over the age of 18 can participate. Be ready for about an hour and a half of FUN!

Appendix M

Male and Female Mean Differences

	Male			Female			Significance test
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	
IRI Fantasy	56	16.52	4.92	139	18.09	6.15	ns
IRI Empathic Concern	56	18.98	5.02	139	21.40	3.89	$t=-3.61$ ($df=193$) $p<.0005$
IRI Perspective Taking	56	16.98	5.18	139	18.93	4.25	$t=-2.72$ ($df=193$) $p=.007$
IRI Personal Distress	56	8.71	4.78	137	10.47	4.78	$t=-2.33$ ($df=191$) $p=.021$
AIRI Fantasy	56	15.57	6.03	138	15.86	6.90	ns
AIRI Empathic Concern	56	18.12	4.83	138	19.68	4.55	$t=-2.12$ ($df=192$) $p=.035$
AIRI Perspective taking	56	18.04	4.44	138	17.63	4.55	ns
AIRI Personal Distress	56	9.96	3.67	138	11.02	4.24	ns
TEQ	56	44.33	8.61	138	47.63	6.54	$t=-2.89$ ($df=192$) $p=.004$
HES	56	36.35	5.88	139	35.79	6.03	ns
SPQ Total	56	26.41	13.94	138	25.19	14.72	ns
SPQ Ideas of Reference	56	3.57	2.56	138	3.64	2.67	ns
SPQ Excessive Social Anxiety	56	4.05	2.54	138	4.51	2.51	ns
SPQ Odd Beliefs or Magical Thinking	56	1.46	1.46	138	1.87	1.96	ns
SPQ Unusual Perceptual Experiences	56	2.57	2.01	138	2.65	2.18	ns
SPQ Odd or Eccentric Behavior	56	2.98	2.42	138	2.16	2.33	$t=2.21$ ($df=192$) $p=.028$
SPQ No Close Friends	56	3.35	2.40	138	2.53	2.35	$t=2.17$ ($df=192$) $p=.032$
SPQ Odd Speech	56	3.67	2.76	138	3.40	2.66	ns
SPQ Constricted Affect	56	2.21	1.80	138	2.00	1.92	ns
SPQ Suspiciousness	56	2.55	2.3	138	2.43	2.27	ns

Appendix N

Intercorrelations of main study variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1 IRI Fantasy	1.00	.39**	.27**	.09	.63**	.40**	.34**	.16	.35**	.31**	.19**	.22**	.11	.19**	.28**	.19**	-.05	.19**	-.03	.08	.08	.09	.06	.23**
2 IRI Empathic Concern	.39**	1.00	.53**	.04	.28**	.61**	.43**	.02	.73**	.38**	-.04	.06	-.02	.20**	.09	-.06	-.20**	-.04	-.16*	-.07	.14*	-.01	.12	.06
3 IRI Perspective Taking	.27**	.53**	1.00	-.18*	.13	.38**	.56**	-.18*	.51**	.30**	-.13	-.10	-.07	.17*	.03	-.09	-.21**	-.11	-.23**	-.19**	.14	-.04	.05	-.10
4 IRI Personal Distress	.09	.04	-.18*	1.00	.23**	.14	-.03	.52**	-.07	-.15*	.34**	.27**	.37**	.07	.11	.16*	.22**	.32**	.23**	.27**	-.15*	.19**	-.02	.27**
5 AIRI Fantasy	.63**	.28**	.13	.23**	1.00	.59**	.39**	.42**	.33**	.14*	.28**	.32**	.23**	.23**	.28**	.19**	.06	.20**	.07	.19**	.09	.16*	.17*	.37**
6 AIRI Empathic Concern	.40**	.61**	.38**	.14	.59**	1.00	.56**	.28**	.65**	.24**	.05	.15*	.02	.19**	.14	.04	-.17*	.05	-.09	-.02	.22**	.02	.24**	.25**
7 AIRI Perspective taking	.34**	.43**	.56**	-.03	.39**	.56**	1.00	.02	.48**	.29**	.01	.06	-.05	.19**	.08	.00	-.10	.00	-.04	-.03	.23**	.06	.24**	.02
8 AIRI Personal Distress	.16*	.02	-.18*	.52**	.42**	.28**	.02	1.00	.01	-.15*	.33**	.28**	.29**	.12	.22**	.19**	.17*	.28**	.22**	.27**	-.03	.24**	.04	.56**
9 TEQ	.35**	.73**	.51**	-.07	.33**	.65**	.48**	.01	1.00	.36**	-.13	-.04	-.06	.11	.05	-.09	-.25**	-.09	-.25**	-.17*	.15*	-.11	.11	.10
10 HES	.31**	.38**	.30**	-.15*	.14	.24**	.29**	-.15*	.36**	1.00	-.19**	.03	-.30**	.23**	.03	.03	-.44**	-.17*	-.33**	-.25**	.08	-.03	.01	-.14*
11 SPQ Total	.19**	-.04	-.13	.34**	.28**	.05	.01	.33**	-.13	-.19**	1.00	.72**	.70**	.49**	.74**	.70**	.70**	.72**	.67**	.79**	.03	.41**	.14	.46**
12 SPQ Ideas of Reference	.22**	.06	-.10	.27**	.32**	.15*	.06	.28**	-.04	.03	.72**	1.00	.42**	.46**	.59**	.39**	.29**	.42**	.29**	.62**	.13	.22**	.20**	.36**
13 SPQ Excessive Social Anxiety	.11	-.02	-.07	.37**	.23**	.02	-.05	.29**	-.06	-.30**	.70**	.42**	1.00	.17*	.42**	.32**	.58**	.39**	.53**	.50**	-.14	.23**	-.01	.31**
14 SPQ Odd Beliefs or Magical	.19**	.20**	.17*	.07	.23**	.19**	.19**	.12	.11	.23**	.49**	.46**	.17*	1.00	.58**	.36**	.10	.21**	.08	.26**	.16*	.23**	.14	.14*
15 SPQ Unusual Perceptual	.28**	.09	.03	.11	.28**	.14	.08	.22**	.05	.03	.74**	.59**	.42**	.58**	1.00	.57**	.30**	.43**	.31**	.49**	.17*	.40**	.17*	.42**
16 SPQ Odd or Eccentric Behavior	.19**	-.06	-.09	.16*	.19**	.04	.00	.19**	-.09	.03	.70**	.39**	.32**	.36**	.57**	1.00	.38**	.54**	.41**	.42**	.01	.32**	.09	.34**
17 SPQ No Close Friends	-.05	-.20**	-.21**	.22**	.06	-.17*	-.10	.17*	-.25**	-.44**	.70**	.29**	.58**	.10	.30**	.38**	1.00	.45**	.65**	.60**	-.08	.29**	.03	.25**
18 SPQ Odd Speech	.19**	-.04	-.11	.32**	.20**	.05	.00	.28**	-.09	-.17*	.72**	.42**	.39**	.21**	.43**	.54**	.45**	1.00	.48**	.50**	-.05	.26**	.04	.35**
19 SPQ Constricted Affect	-.03	-.16*	-.23**	.23**	.07	-.09	-.04	.22**	-.25**	-.33**	.67**	.29**	.53**	.08	.31**	.41**	.65**	.48**	1.00	.51**	-.02	.25**	.12	.27**
20 SPQ Suspiciousness	.08	-.07	-.19**	.27**	.19**	-.02	-.03	.27**	-.17*	-.25**	.79**	.62**	.50**	.26**	.49**	.42**	.60**	.50**	.51**	1.00	.04	.38**	.10	.40**
21 PANAS Pre Positive	.08	.14*	.14	-.15*	.09	.22**	.23**	-.03	.15*	.08	.03	.13	-.14	.16*	.17*	.01	-.08	-.05	-.02	.04	1.00	.12	.64**	.14
22 PANAS Pre Negative	.09	-.01	-.04	.19**	.16*	.02	.06	.24**	-.11	-.03	.41**	.22**	.23**	.23**	.40**	.32**	.29**	.26**	.25**	.38**	.12	1.00	.17*	.49**
23 PANAS Post Positive	.06	.12	.05	-.02	.17*	.24**	.24**	.04	.11	.01	.14	.20**	-.01	.14	.17*	.09	.03	.04	.12	.10	.64**	.17*	1.00	.12
24 PANAS Post Negative	.23**	.06	-.10	.27**	.37**	.25**	.02	.56**	-.10	-.14*	.46**	.36**	.31**	.14*	.42**	.34**	.25**	.35**	.27**	.40**	.14	.49**	.12	1.00

Appendix O
Mean SPQ Scores in Student and Public Sample Differences

	Student			Public			Significance test
	<i>n</i>	Mean	<i>SD</i>	<i>n</i>	Mean	<i>SD</i>	
SPQ Total	153	26.77	14.42	43	22.11	14.58	$p=.06$
SPQ Ideas of Reference		3.87	2.64		2.87	2.49	$t= 2.24(df=194)$ $p=.026$
SPQ Excessive Social Anxiety		4.71	2.42		3.33	2.62	$t=3.26 (df=194)$ $p=.001$
SPQ Odd Beliefs or Magical Thinking		1.65	1.80		2.28	1.98	$t= 1.99(df=194)$ $p=.048$
SPQ Unusual Perceptual Experiences		2.77	2.17		2.35	2.15	ns
SPQ Odd or Eccentric Behavior		2.39	2.35		2.58	2.57	ns
SPQ No Close Friends		2.92	2.33		2.23	2.49	ns
SPQ Odd Speech		3.63	2.74		3.05	2.48	ns
SPQ Constricted Affect		2.15	1.79		1.70	2.13	ns
SPQ Suspiciousness		2.67	2.24		1.74	2.27	$t= 2.38(df=194)$ $p=.018$

Appendix P

Entire survey as presented on Qualtrics system

Personality Study Welcome! Thank you for participating in this personality study. Here are some things you should know about your participation.

Purpose: You are being asked to take part in a research study comparing your personality characteristics and your response to reading a short fictional story. You have been invited to participate because you are an undergraduate student or because you have volunteered. The purpose of this research study is to contribute to the knowledge base in this field. The results will be used for the primary investigators master's thesis. You must be 18 or older to participate in this research.

Procedures: If you agree to take part in this research study, and you are a student you will be given course credit. If you are a non-student volunteer you will not receive compensation. During the first portion of the study you will be asked to complete a demographic questionnaire and other measures of your personality, thoughts, and feelings. This should take approximately 10 minutes. Next, you will be required to read a short story that should take you up to 40 minutes. The last portion of the study will consist of answering questions about your subjective reactions to the story you read and completing other measures about your thoughts and feelings. This last portion should take you approximately 10 minutes. It is not important that you remember specific details of the story, but you should be able to comprehend the content. The session is expected to last for 60 minutes.

Risks/Discomforts: Mild discomfort may result from reading emotional content or answering personal questions about your self; however, anticipated risk to participants is minimal. Reading and answering the questions may cause you to feel sad or upset.

Assistance: If you become distressed during or after completion of the questionnaires and would like help, there are several health care options available to you as a University of Montana student and/or a volunteer. UM Curry Health Center: (406) 243-2122; Medical Clinic: (406) 243-4330 UM Counseling and Psychological Services: (406) 243-4711 UM Behavioral Health Options: (406) 243-2290 UM Student Advocacy Resource Center: 243-4429; SARC Crisis line: 243-6559 Clinical Psychology Center: (406) 243-2367 Western Montana Mental Health Center Crisis Line: (406) 532-9710 **Benefits:** Although you may not directly benefit, this study may contribute to the field of knowledge. The main benefits will be to our understanding of processes underlying empathy.

Q252 Confidentiality: Your records will be kept confidential and will not be released without your consent except as required by law. Your identity will be kept private. If the results of this study are written in a scientific journal or presented at a scientific meeting, your name will not be used. The electronic data will be stored in a secure server. **Voluntary Participation/Withdrawal:** Your decision to take part in this research study is entirely voluntary. You may refuse to take part in or you may withdraw from the study at any time without penalty or loss of benefits to

which you are normally entitled. If you decide to withdraw please let the research assistant know you would like to withdraw from the study.

Questions: If you have any questions about the research now or during the study, please contact: Anahata Neuman, 831-334-2653 anahata.neuman@umontana.edu or David Schuldberg, david.schuldberg@umontana.edu If you have any questions regarding your rights as a research subject, you may contact the UM Institutional Review Board (IRB) at (406) 243-6672.

If you decide to withdraw from this study, just stop completing the survey and will still get credit. Please e-mail anahata.neuman@umontana.edu to be sure you receive credit. Please take a screenshot of this page or print a copy for your records.

- I have read the above information and agree to participate in this research project. (1)
- Exit this survey (2)

Please tell us about yourself!

Q1 What is your gender?

- Male (1)
- Female (2)
- Transwoman (3)
- Transman (4)
- Other (5) _____

Q2 How old are you?

Q3 What is your racial/ethnic background?

- White/non-Hispanic (1)
- Black (2)
- Hispanic (3)
- Asian or Pacific Islander (4)
- American Indian/Alaskan Native (5)
- Two or more races (6)
- Other (7)

Q4 Which of the following is the highest level of education achieved by either of your parents or guardian?

- Elementary School (1)
- High School (2)
- Trade/Tech School (3)
- Some college, but did not graduate (4)
- Associate's degree (5)
- Bachelor's degree (6)
- Master's degree (7)
- Ph.D/Ed.D/MD/Law degree (8)

Q5 What is your current relationship status?

- Single (1)
- Dating, in a non-committed relationship (2)
- Dating, in a committed relationship (3)
- Married (4)
- Divorced or separated (5)
- Widowed (6)

Q6 (If yes to relationship) How long have you been in this relationship? (in months)

Q7 Where do you currently live?

- Residence halls (1)
- Sorority or fraternity house (2)
- Off-campus University housing (3)
- Home of parent or relative (4)
- Other off-campus housing (5)

Q8 Which of the following sexual orientations do you most identify with?

- Straight (1)
- Gay (2)
- Bisexual (3)
- Other (4)

Q9 Do you like to read?

- Yes (1)
- No (2)

Q114 Guilty

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q115 Scared

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q116 Hostile

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q117 Enthusiastic

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q118 Proud

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q119 Irritable

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q120 Alert

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q121 Ashamed

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q122 Inspired

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q123 Nervous

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q124 Determined

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q125 Attentive

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q126 Jittery

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q127 Active

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q128 Afraid

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q254 Thank you,

Q129 Next, we would like to know about your general thoughts and feelings. The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale : A, B, C, D, or E. Read each item carefully before responding. Answer as honestly as you can. Thank you.

Q337 Next, we would like to know about your general thoughts and feelings. The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale: A, B, C, D, or E. Read each item carefully before responding. Answer as honestly as you can. Thank you.

Q130 I daydream and fantasize, with some regularity, about things that might happen to me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q131 I often have tender, concerned feelings for people less fortunate than me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q132 I sometimes find it difficult to see things from the "other guy's" point of view.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q133 Sometimes I don't feel very sorry for other people when they are having problems.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q134 I really get involved with the feelings of the characters in a novel.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q135 In emergency situations, I feel apprehensive and ill-at-ease.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q136 I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q137 I try to look at everybody's side of a disagreement before I make a decision.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q138 When I see someone being taken advantage of, I feel kind of protective towards them.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q139 I sometimes feel helpless when I am in the middle of a very emotional situation.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q140 I sometimes try to understand my friends better by imagining how things look from their perspective.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q141 Becoming extremely involved in a good book or movie is somewhat rare for me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q142 When I see someone get hurt, I tend to remain calm.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q143 Other people's misfortunes do not usually disturb me a great deal.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q144 If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q145 After seeing a play or movie, I have felt as though I were one of the characters.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q146 Being in a tense emotional situation scares me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q147 When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q148 I am usually pretty effective in dealing with emergencies.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q149 I am often quite touched by things that I see happen.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q150 I believe that there are two sides to every question and try to look at them both.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q151 I would describe myself as a pretty soft-hearted person.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q152 When I watch a good movie, I can very easily put myself in the place of a leading character.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q153 I tend to lose control during emergencies.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q154 When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q155 When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q156 When I see someone who badly needs help in an emergency, I go to pieces.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q157 Before criticizing somebody, I try to imagine how I would feel if I were in their place.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q253 Sarah colestoryforstudypacket11 Please click on the title sarahcolestoryforstudypacket11 to the left. This will open the story in a separate tab. Please read the story. This should take approximately 30 minutes. You will be asked to answer questions about your responses to the content of this story in the next portion of this survey. To get back to the survey when you are finished reading, please return to the original tab next to the story tab that opened. Do not continue until the story opens in a separate window. Thank you.

Q218 Thank you for reading the short story. Now we would like you to answer the following questions in response to how you are feeling right now after reading the story "Sarah Cole." For each item, indicate how well it describes your experience right now by choosing the appropriate letter on the scale A, B, C, D, or E. It is not important to reference a particular character. Simply describe your feeling state. **READ EACH ITEM CAREFULLY BEFORE RESPONDING.** Answer as honestly as you can. Thank you.

Q219 I am daydreaming and fantasizing about things that might happen to me.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q220 I am experiencing tender, concerned feelings for people less fortunate than me.

- DOES NOT DESCRIBE WELL ME A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q221 I am finding it difficult to see things from the "other person's" point of view.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q222 I do not feel very sorry for a person when they are having problems.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q223 I am involved with the feelings of the characters.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q224 This distressing situation is making me feel apprehensive and ill-at-ease.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q225 I feel objective, and I am not completely caught up in this story, movie, or play.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q226 I am looking at everybody's side of the disagreement before I make a decision.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q227 I see someone being taken advantage of; I feel kind of protective towards them.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q228 I feel helpless in the middle of a very emotional situation.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q229 I understand this better by imagining how things looked from their (his or her) perspective.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q230 I don't feel extremely involved in this story or movie.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q231 Someone got hurt and I feel calm.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q232 A person's misfortunes do not disturb me a great deal.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q233 I feel right about something therefore I won't waste much time listening to another person's argument.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q234 I feel as though I am one of the characters.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q235 I feel scared; this tense emotional situation scares me.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q236 I see someone being treated unfairly; I don't feel very much pity for them.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q237 I feel I am effective in dealing with this distressing situation.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q238 I feel quite touched by what I am seeing.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q239 I am looking at both sides of the issue in question.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q240 I feel pretty soft-hearted.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q241 I am very easily imagining myself in the place of one of the characters.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q242 I am losing control inside while imagining this distressing situation.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q243 I am upset at someone, and I am trying to "put myself in their shoes" for awhile.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q244 I am reading an interesting story or novel; I am imagining how I would feel if the events in the story were happening to me.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q245 I see someone who badly needs help in a distressing situation and I am going to pieces.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q246 I am imagining how I would feel if I were in their place, before feeling critical of them.

- DOES NOT DESCRIBE ME WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

1 True or False? "Sarah Cole is dead", is a metaphor?

- True (1)
- False (2)

2 True or False? Ron is the narrator of the story?

- True (1)
- False (2)

3 True or False? Ron is sensitive to Sarah's needs when they break up?

- True (1)
- False (2)

Q1 Have you ever personally been in a situation similar to that of the narrator?

- Yes (1)
- No (2)

Q2 Have you ever personally been in a situation similar to that of the female protagonist?

- Yes (1)
- No (2)

Q3 Have you ever known another person who has been in the position of the narrator?

- Yes (1)
- No (2)

Q4 Have you ever known another person who has been in the position of the female protagonist?

- Yes (1)
- No (2)

Q257 Please tell us about how you are feeling right now. This scale consists of a number of words that describe different feelings and emotions. Read each item and then indicate to what extent you feel this way right now, that is, at the present moment.

Q258 Interested

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q259 Distressed

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q260 Excited

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q261 Upset

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q262 Strong

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q263 Guilty

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q264 Scared

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q265 Hostile

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q266 Enthusiastic

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q267 Proud

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q268 Irritable

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q269 Alert

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q270 Ashamed

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q271 Inspired

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q272 Nervous

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q273 Determined

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q274 Attentive

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q275 Jittery

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q276 Active

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q277 Afraid

- Very Slightly or Not at All 1 (1)
- A Little 2 (2)
- Moderate 3 (3)
- Quite a Bit 4 (4)
- Extremely 5 (5)

Q278 Thank you,

Q278 Next, please answer the following questions about yourself! Answer all items even if unsure of your answer. Thank you, very much.

Q34 Do you sometimes feel that things you see on the TV or read in the newspaper have a special meaning for you?

- Yes (1)
- No (2)

Q35 I sometimes avoid going to places where there will be many people because I will get anxious.

- Yes (1)
- No (2)

Q36 Have you had experiences with the supernatural?

- Yes (1)
- No (2)

Q37 Have you often mistaken objects or shadows for people, or noises for voices?

- Yes (1)
- No (2)

Q38 Other people see me as slightly eccentric (odd).

- Yes (1)
- No (2)

Q39 I have little interest in getting to know other people.

- Yes (1)
- No (2)

Q40 People sometimes find it hard to understand what I am saying.

- Yes (1)
- No (2)

Q41 People sometimes find me aloof and distant.

- Yes (1)
- No (2)

Q42 I am sure I am being talked about behind my back.

- Yes (1)
- No (2)

Q43 I am aware that people notice me when I go out for a meal or to see a film.

- Yes (1)
- No (2)

Q44 I get very nervous when I have to make polite conversation

- Yes (1)
- No (2)

Q45 Do you believe in telepathy (mind-reading)?

- Yes (1)
- No (2)

Q46 Have you ever had the sense that some person or force is around you, even though you cannot see anyone?

- Yes (1)
- No (2)

Q47 People sometimes comment on my unusual mannerisms and habits.

- Yes (1)
- No (2)

Q48 I prefer to keep to myself.

- Yes (1)
- No (2)

Q49 I sometimes jump quickly from one topic to another when speaking.

- Yes (1)
- No (2)

Q50 I am poor at expressing my true feelings by the way I talk and look.

- Yes (1)
- No (2)

Q51 Do you often feel that other people may harm you?

- Yes (1)
- No (2)

Q52 Do some people drop hints about you or say things with a double meaning?

- Yes (1)
- No (2)

Q53 Do you ever get nervous when someone is walking behind you?

- Yes (1)
- No (2)

Q54 Are you sometimes sure that other people can tell what you are thinking?

- Yes (1)
- No (2)

Q55 When you look at a person, or yourself in a mirror, have you ever seen the face change right before your eyes?

- Yes (1)
- No (2)

Q56 Sometimes other people think that I am a little strange.

- Yes (1)
- No (2)

Q57 I am mostly quiet when with other people.

- Yes (1)
- No (2)

Q58 I sometimes forget what I am trying to say.

- Yes (1)
- No (2)

Q59 I rarely laugh and smile.

- Yes (1)
- No (2)

Q60 Do you sometimes get concerned that friends or co-workers are not really loyal or trustworthy?

- Yes (1)
- No (2)

Q61 Have you ever noticed a common event or object that seemed to be a special sign for you?

- Yes (1)
- No (2)

Q62 I get anxious when meeting people for the first time.

- Yes (1)
- No (2)

Q63 Do you believe in clairvoyancy (psychic forces, fortune telling)?

- Yes (1)
- No (2)

Q64 I often hear a voice speaking my thoughts aloud.

- Yes (1)
- No (2)

Q65 Some people think that I am a very bizarre person.

- Yes (1)
- No (2)

Q66 I find it hard to be emotionally close to other people.

- Yes (1)
- No (2)

Q67 I often go off topic when speaking.

- Yes (1)
- No (2)

Q68 My "non-verbal" communication (smiling and nodding during a conversation) is poor.

- Yes (1)
- No (2)

Q69 I feel I have to be on my guard even with friends.

- Yes (1)
- No (2)

Q70 Do you sometimes see special meanings in advertisements, shop windows, or in the way things are arranged around you?

- Yes (1)
- No (2)

Q71 Do you often feel nervous when you are in a group of unfamiliar people?

- Yes (1)
- No (2)

Q72 Can other people feel your feelings when they are not there?

- Yes (1)
- No (2)

Q73 Have you ever seen things invisible to other people?

- Yes (1)
- No (2)

Q74 Do you feel that there is no-one you are really close to outside of your immediate family, or people you can confide in or talk to about personal problems?

- Yes (1)
- No (2)

Q75 Some people find me a bit vague and elusive during a conversation.

- Yes (1)
- No (2)

Q76 I am poor at returning social courtesies and gestures.

- Yes (1)
- No (2)

Q77 Do you often pick up hidden threats or put-downs from what people say or do?

- Yes (1)
- No (2)

Q78 When shopping do you get the feeling that other people are taking notice of you?

- Yes (1)
- No (2)

Q79 I feel very uncomfortable in social situations involving unfamiliar people.

- Yes (1)
- No (2)

Q80 Have you had experiences with astrology, seeing the future, UFOs, extra-sensory perception, or a sixth sense?

- Yes (1)
- No (2)

Q81 Do everyday things seem unusually large or small?

- Yes (1)
- No (2)

Q82 Writing letters to friends is more trouble than it is worth.

- Yes (1)
- No (2)

Q83 I sometimes use words in unusual ways.

- Yes (1)
- No (2)

Q84 I tend to avoid eye contact when conversing with others.

- Yes (1)
- No (2)

Q85 Have you found that it is best not to let other people know too much about you?

- Yes (1)
- No (2)

Q86 When you see people talking to each other, do you often wonder if they are talking about you?

- Yes (1)
- No (2)

Q87 I would feel very anxious if I had to give a speech in front of a large group of people.

- Yes (1)
- No (2)

Q88 Have you ever felt that you are communicating with another person telepathically (by mind-reading)?

- Yes (1)
- No (2)

Q89 Does your sense of smell sometimes become unusually strong?

- Yes (1)
- No (2)

Q90 I tend to keep in the background on social occasions.

- Yes (1)
- No (2)

Q91 Do you tend to wander off the topic when having a conversation?

- Yes (1)
- No (2)

Q92 I often feel that others are out to get me.

- Yes (1)
- No (2)

Q93 Do you sometimes feel that other people are watching you?

- Yes (1)
- No (2)

Q94 Do you ever suddenly feel distracted by distant sounds that you are not normally aware of?

- Yes (1)
- No (2)

Q95 I attach little importance to having close friends.

- Yes (1)
- No (2)

Q96 Do you sometimes feel that people are talking about you?

- Yes (1)
- No (2)

Q97 Are your thoughts sometimes so strong that you can almost hear them?

- Yes (1)
- No (2)

Q98 Do you often have to keep an eye out to stop people from taking advantage of you?

- Yes (1)
- No (2)

Q99 Do you feel that you are unable to get "close" to people?

- Yes (1)
- No (2)

Q100 I am an odd, unusual person.

- Yes (1)
- No (2)

Q101 I do not have an expressive and lively way of speaking.

- Yes (1)
- No (2)

Q102 I find it hard to communicate clearly what I want to say to people.

- Yes (1)
- No (2)

Q103 I have some eccentric (odd) habits.

- Yes (1)
- No (2)

Q104 I feel very uneasy talking to people I do not know well.

- Yes (1)
- No (2)

Q105 People occasionally comment that my conversation is confusing

- Yes (1)
- No (2)

Q106 I tend to keep my feelings to myself.

- Yes (1)
- No (2)

Q107 People sometimes stare at me because of my odd appearance.

- Yes (1)
- No (2)

Below is a list of statements. Please read each statement carefully and rate how frequently you feel or act in the manner described. There are no right or wrong answers or trick questions. Please answer each question as honestly as you can.

When someone else is feeling excited, I tend to get excited too

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

Other people's misfortunes do not disturb me a great deal

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

Q20 It upsets me to see someone being treated disrespectfully

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I remain unaffected when someone close to me is happy

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I enjoy making other people feel better

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I have tender, concerned feelings for people less fortunate than me

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

When a friend starts to talk about his/her problems, I try to steer the conversation towards something else

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I can tell when others are sad even when they do not say anything

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I find that I am "in tune" with other people's moods

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I do not feel sympathy for people who cause their own serious illnesses

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I become irritated when someone cries

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I am not really interested in how other people feel

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I get a strong urge to help when I see someone who is upset

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

When I see someone being treated unfairly, I do not feel very much pity for them

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

I find it silly for people to cry out of happiness

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

When I see someone being taken advantage of, I feel kind of protective towards him/her

- Never (0) (1)
- Rarely (1) (2)
- Sometimes (2) (3)
- Often (3) (4)
- Always (4) (5)

Q312 We would like to know a little more about your general thoughts and feelings. The following statements inquire about your thoughts and feelings in a variety of situations. For each item, indicate how well it describes you by choosing the appropriate letter on the scale: A, B, C, D, or E. Read each item carefully before responding. Answer as honestly as you can. Thank you.

Q343 I often have tender, concerned feelings for people less fortunate than me.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q346 I sometimes find it difficult to see things from the "other guy's" point of view.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q318 I try to look at everybody's side of a disagreement before I make a decision.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q324 Other people's misfortunes do not usually disturb me a great deal.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q326 After seeing a play or movie, I have felt as though I were one of the characters.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q329 I am usually pretty effective in dealing with emergencies.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q333 When I watch a good movie, I can very easily put myself in the place of a leading character.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q337 When I see someone who badly needs help in an emergency, I go to pieces.

- DOES NOT DESCRIBE ME VERY WELL A (1)
- B (2)
- C (3)
- D (4)
- DESCRIBES ME VERY WELL E (5)

Q277 This is the last questionnaire. You are almost done! Please answer the following questions about yourself.

Q155 I feel that it is certainly best to keep my mouth shut when I am in trouble

- True (1)
- False (2)

Q154 Once in awhile I think of things too bad to talk about

- True (1)
- False (2)

Q182 It is the duty of a citizen to support his country, right or wrong

- True (1)
- False (2)

Q157 I am an important person

- True (1)
- False (2)

Q180 I have seen some things so sad that I almost felt like crying

- True (1)
- False (2)

Q162 What others think of me does not bother me

- True (1)
- False (2)

Q163 I would like to be a journalist

- True (1)
- False (2)

Q160 I have met problems so full of possibilities that I have been unable to make up my mind about them

- True (1)
- False (2)

Q196 I would like the job of a foreign correspondent for a newspaper

- True (1)
- False (2)

Q161 Often I can't understand why I have been so cross and grouchy

- True (1)
- False (2)

Q194 I have at one time or another in my life tried my hand at writing poetry

- True (1)
- False (2)

Q164 I like to talk about sex

- True (1)
- False (2)

Q167 I like to be with a crowd who play jokes on one another

- True (1)
- False (2)

Q192 I am afraid of deep water

- True (1)
- False (2)

Q165 My way of doing things is apt to be misunderstood by others

- True (1)
- False (2)

Q166 Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world"

- True (1)
- False (2)

Q175 I would certainly enjoy beating a crook at his own game

- True (1)
- False (2)

Q188 I liked Alice and Wonderland by Lewis Carroll

- True (1)
- False (2)

Q170 Sometimes I enjoy hurting persons I love

- True (1)
- False (2)

Q168 My mother or father often made me obey even when I thought that it was unreasonable

- True (1)
- False (2)

Q172 I am not easily angered

- True (1)
- False (2)

Q171 I tend to be interested in several different hobbies rather than to stick to one of them for a long time

- True (1)
- False (2)

Q211 I like to have a place for everything and have everything in it's place

- True (1)
- False (2)

Q173 People have often misunderstood my intentions when I was trying to put them right and be helpful

- True (1)
- False (2)

Q176 I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it

- True (1)
- False (2)

Q203 Before I do something I try to consider how my friends will react to it

- True (1)
- False (2)

Q156 I am a good mixer

- True (1)
- False (3)

Q174 I am usually calm and not easily upset

- True (1)
- False (2)

Q207 My parents were always very strict and stern with me

- True (1)
- False (2)

Q179 As a rule I have difficulty in "putting myself into other people's shoes"

- True (1)
- False (2)

Q181 Disobedience to the government is never justified

- True (1)
- False (2)

Q183 I am usually rather short-tempered with people who come around and bother me with foolish questions

- True (1)
- False (2)

Q185 I enjoy the company of strong-willed people

- True (1)
- False (2)

Q159 My feelings are not easily hurt

- True (1)
- False (2)

Q178 I have never been made especially nervous over trouble that any members of my family have gotten into

- True (1)
- False (2)

Q208 Sometimes I rather enjoy going against the rules and doing things I'm not supposed to

- True (1)
- False (2)

Q184 I have a pretty clear idea of what I would impart to my students if I were a teacher

- True (1)
- False (2)

Q187 A person needs to "show off" a little now and then

- True (1)
- False (2)

Q213 It bothers me when something unexpected interrupts my daily routine

- True (1)
- False (2)

Q191 I never cared much for school

- True (1)
- False (2)

Q200 I usually don't like to talk much unless I am with people I know very well

- True (1)
- False (2)

Q189 Clever, sarcastic people make me feel very uncomfortable

- True (1)
- False (2)

Q190 I usually take an active part in the entertainment at parties

- True (1)
- False (2)

Q193 I must admit I often try to get my own way regardless of what others may want

- True (1)
- False (2)

Q169 I easily become impatient with people

- True (1)
- False (2)

Q177 I used to like hopscotch

- True (1)
- False (2)

Q197 People today have forgotten how to feel properly ashamed of themselves

- True (1)
- False (2)

Q158 I like poetry

- True (1)
- False (2)

Q195 Most of the arguments or quarrels I get into are over matters of principle

- True (1)
- False (2)

Q198 I prefer a shower to a bathtub

- True (1)
- False (2)

Q199 I always try to consider the other person's feelings before I do something

- True (1)
- False (2)

Q201 I can remember "playing sick" to get out of something

- True (1)
- False (2)

Q215 I don't really care whether people like me or dislike me

- True (1)
- False (2)

Q202 I like to keep people guessing what I'm going to do next

- True (1)
- False (2)

Q186 I frequently undertake more than I can accomplish

- True (1)
- False (2)

Q204 I like to talk before groups of people

- True (1)
- False (2)

Q205 From time to time I like to get completely away from work and anything that reminds me of it

- True (1)
- False (2)

Q206 Only a fool would try to change our American way of life

- True (1)
- False (2)

Q210 I think I'm usually a leader in my group

- True (1)
- False (2)

Q209 I think I would like to belong to a singing club

- True (1)
- False (2)

Q212 I don't like to work on a problem unless there is a possibility of coming out with a clear-cut and unambiguous answer

- True (1)
- False (2)

Q214 I have a natural talent for influencing people

- True (1)
- False (2)

Q247 Thank you for taking part in a research study comparing your personality characteristics, and your feelings of empathy in response to reading a short fictional story. The purpose of this research study is to contribute to the knowledge base in this field. The results will be used for the primary investigators master's thesis. I hope you enjoyed your experience today. If you have any questions later please feel free to contact me at anahata.neuman@umontana.edu Thank you again for your participation.