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Back to Nature:

The Impact of Nature Relatedness on

Empathy and Narcissism in the Millennial Generation

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Abstract

Social science research suggests that the current generation of college students is quite different from previous cohorts of undergraduates. In particular, researchers have discovered that college students, known as "Millennials," demonstrate lower levels of empathy, higher levels of narcissism, increased use of technology, and decreased time spent outdoors. As counselors working with Millennials, large scale dispositional changes may impact the overall functioning of these individuals. This quantitative study of 140 undergraduates explores the relationship between the constructs of empathy, narcissism, and nature-relatedness among the Millennial generation. Data analysis suggests that there is a statistically significant relationship between nature relatedness and empathy. This study offers an empirical rationale for utilizing community-based and nature-oriented approaches when working with Millennials.

Introduction

Adults are notorious for complaining about young people. Citing everything from their work ethic to their patterns of dating, older generations predictably find fault with the one that follows. Today's elders might be pleased to know that there is growing evidence to support the claim that young people today are quite different than they once were. The field of generational studies now offers data to confirm or reject the complaints about "kids these days." Data suggest that this generation of undergraduates, known as the Millennials, is different from previous cohorts of young people. In particular, Millennials vary in anxiety, narcissism, prosocial attitudes, empathy, sexual behavior, technology usage, and concern for others and the environment (Odell, Korgen, Schumacher, & Delucchi, 2000; Taylor, Paul & Keeter, Scott, 2010; Twenge, 2000; Twenge, Konrath, Foster, Keith Campbell, & Bushman, 2008; Twenge, Konrath, Foster, Campbell, & Bushman, 2008b; Twenge, 2009; Twenge, Campbell, & Freeman, 2012; Wells & Twenge, 2005).

Dispositional shifts such increased narcissism, decreased empathy, and reduced time in nature seem to suggest that Millennials might be relating differently to themselves, others, and the environment. These shifts may appear particularly distressing for counselors who adhere to wellness models (Bronfenbrenner, 1999; Myers & Sweeney, 2004). Wellness models conceptualize optimal functioning as "a way of life… in which body, mind, and spirit are integrated by the individual to live life more fully within the human and natural community" (Myers, Sweeney & Witmer, 2000, p. 252). To quantify the difference in how Millennials relate to themselves, others, and the environment, this study examines three generationally variant constructs: narcissism,

empathy, and nature relatedness. These particular constructs were selected because they provide insights into how Millennials relate to themselves (narcissism), to others (empathy), and to the environment (nature relatedness). Establishing a relationship between these constructs will offer a clearer picture of how these changing attitudes influence one another and what impact they may hold for Millennial functioning. Providing empirical evidence of a relationship between narcissism, empathy, and nature relatedness will help clinicians who work with Millennials make informed decisions regarding appropriate interventions in treatment.

Literature Review

The Millennial Generation

Known as the Millennials or Generation Me, this label refers to the 95 million Americans born between 1982 and 2001 (Howe & Strauss, 2000). The children of the Baby Boomers, born between 1946 and 1964, the Millennials came of age during the Reagan administration's hard turn toward protectionism of children. In 1982, Congress passed the Child Abuse and Neglect Prevention Act, the federal government's first attempt to legislate on behalf of child welfare (Howe & Strauss, 1993). Sheltered from harm with "Baby on Board" signs, child safety rules, and post-Columbine school lockdowns (Martin, 2001), the Millennials, now in late adolescence and early adulthood, spent their early years enjoying the economic and technological prosperity of the 1990s. In one respect, the world during the Millennial adolescence was dangerous; in another respect, the world was prosperous. With 115 consecutive months of economic growth, the lowest rate of unemployment in 30 years, and the highest rate of home ownership in American history (Schier, 2000), the 1990s were an era of opportunity and growth. By any estimation, the social, political, and economic circumstances that characterized the Millennials' youth were unprecedented.

To understand how these larger social, cultural, and political forces influence the Millennial personality, it is necessary to separate age from generation. Generational research attempts to isolate traits that are found in youth generally from those that are unique to people born during a particular era. For example, young people may tend to take greater risks because of an underdeveloped pre-frontal cortex. In this sense, risk-taking is more likely the product of youth than being part of a particular generation.

These distinctions between age and generation are most readily accomplished through time-lag or cohort studies. A cohort refers to a group of people who were either born in the same year, or the same set of years. Birth cohort is a useful proxy for the sociocultural environment of different time periods (Stewart & Healy, 1989; Twenge, 2000). For example, children growing up in the 1970s were exposed to a fundamentally different culture than children growing up in the 1990s. Cohort studies can sort out whether specific characteristics are the product of youth versus belonging to a particular cohort (Twenge, 2000).

By using the method of cross-temporal meta-analysis, researchers correlate the mean scores on a measure with the year of data collection. After weighing for sample size, it is possible to assess changes over time on particular measures (Konrath, 2011). Researchers studying the Millennials used cross-temporal meta-analysis to find differences in the social and cultural self-conceptions of this generation. The literature points to variations in anxiety, narcissism, pro-social attitudes, empathy, sexual behavior, technology usage, and concern for others and the environment among Millennials (Odell, Korgen, Schumacher, & Delucchi, 2000; Taylor, Paul & Keeter, Scott, 2010; Twenge, 2000; Twenge, Konrath, Foster, Keith Campbell, & Bushman, 2008; Twenge, Konrath, Foster, Campbell, & Bushman, 2008b; Twenge, 2009; Twenge, Campbell, & Freeman, 2012; Wells & Twenge, 2005).

In particular, Millennials have more narcissistic traits, lower empathy, and less concern for others and the environment. These changes are striking because they suggest that Millennials may be connecting differently to themselves, to others, and to the environment. If they are connecting differently, these dispositional changes may

influence the reciprocal relationships that wellness models identify as constitutive of optimal functioning (Bronfenbrenner, 1999; Reese & Myers, 2012). In other words, the less one can connect, the worse one functions.

Narcissism

A review of the literature suggests that the average college student now exhibits higher measures of narcissistic characteristics than his or her predecessors did in the early 1980s – a 30% increase in narcissistic traits between Generation X, born 1965-1981 (Howe & Strauss, 1993), and the Millennials, born 1982-2001 (Twenge et al., 2008a). The traits that define narcissism include, first, a positive and inflated view of the self with a focus on qualities such as power, physical attractiveness, and importance (Twenge et al., 2008a). Second, individuals with high levels of narcissistic characteristics possess a type of social extraversion that is marked by low interest in forming emotional intimacies with others (Twenge et al., 2008a). Third, those with narcissistic qualities exhibit a range of "self-regulation efforts aimed at enhancing the self," (Twenge et al., 2008a, pg. 876), which can include taking credit from others, attention-seeking, pursuing high-status romantic partners or public glory (Twenge et al., 2008a). Twenge and Campbell (2009) call this increase in distinctive dispositional traits "the narcissism epidemic," which these researchers believe is corrosive to society.

However, if narcissistic qualities are on the increase with the current generation of college students, is that necessarily a bad thing? Narcissism is, after all, associated with some pro-social values such as extraversion (Campbell, Rudich, & Sedikides, 2002). Campbell et al. (2002) also point out that narcissism correlates with life satisfaction, positive affect, and high self-esteem. High levels of narcissistic traits are also linked with

other agentic traits such as desire for power, and importance. These specific pro-social correlates distinguish narcissistic traits from narcissistic personality disorder. According to DSM-V criteria, a person with narcissistic personality disorder expresses a "pervasive pattern of grandiosity, need for admiration, and lack of empathy" (American Psychiatric Association, 2013, p. 669) which is often indicated by being interpersonally exploitative, unwilling to recognize the needs or feelings of others, and a grandiose sense of self-importance. It is also assumed that individual who meet the diagnostic criteria for narcissistic personality disorder would not have the life satisfaction that is associated with non-clinical narcissistic traits.

On an individual level, narcissistic qualities might offer some benefits for the person. But how might the narcissism epidemic impact the reciprocal relationship between people, communities, and the natural world? Campbell, Bush, Brunell, and Shelton (2005) argue that narcissism positively relates to acquisitive goals, which provide some benefit to the self, but at the cost to other individuals and the common good. Twenge, Campbell, and Freeman (2012) also suggest that the decline in wanting to protect the environment was especially steep in Millennials as compared to other generations. Fifteen percent of Millennials, versus 5% of Baby Boomers, said that they made no effort at all to help the environment. As helping professionals who embrace a holistic paradigm, it is hard to imagine that issues related to the health of social and environmental systems will register as meaningful issues to address in counseling contexts (O'Neill et al., 2003; Schwarzenbach, Egli, Hofstetter, Von Gunten, & Wehrli, 2010). This acquisitive "I've got mine" attitude may also play out in terms of client goals. As opposed to fostering richer connections inter- and intra-personally, counseling may be

viewed as another activity aimed at increasing personal success (Doherty, 1995).

Empathy

A recent study from the University of Michigan found that current college students scored significantly lower on empathy scales than their predecessors 20 to 30 years ago (Konrath, 2011). Millennials exhibited a 48% decrease in empathy over the generations studied over the past twenty years. Empathy as a construct comes to us from the German word *einfulung* or "feeling into" (May, 1939). Derived from the Greek notion of *pathos*, empathy is recognized as a strong feeling that is close to suffering (May, 1939). Previous research on empathy suggests some difficultly in defining this construct. Early theory suggested that empathy was a cognitive capacity for imagining the emotional states of others (Borke, 1971; Konrath, 2011). Other social scientists defined empathy as an affective mechanism (Batson & Shaw, 1991; Miller, 1989). Feshbach and Roe (1968) suggest that empathy is the direct experience of another person's emotions. This type of affective empathy is also present in counseling literature. Carl Rogers calls empathy "a way of being with another that for the time being, you lay aside the views and values you hold for yourself in order to enter another's world without prejudice" (Rogers, 1975, p.4). Alternatively, Batson and his colleagues (Batson, Duncan, Ackerman, Buckley, & Birch, 1981) proposed the idea that people empathize in order to reduce their own distress about other's situations.

In addition to the cognitive and affective dimensions of empathy, recent discoveries in neuroscience suggest that empathy might be the product of the brain's mirror neuron system. Mirror neurons "are a class of neurons, originally discovered in the premotor cortex of monkeys, that discharge both when individuals perform a given motor

act and when they observe others perform that same motor act" (Rizzolatti & Craighero, 2004, p. 169). The mirror neurons allow us to make sense of the actions, emotions or sensations in the world see by activating our own internal representations of these states (Freedberg & Gallese, 2007). When we watch someone do something, we have an experience of an embodied simulation that enables us to make sense of the inner world of others. The mirror neuron system offers a virtual definition of empathy.

While the literature suggests that empathy can be defined in many ways, the one essential feature common to all definitions is the idea that one can experience a connection with those lives who are not necessarily linked to one's own (Decety & Lamm, 2006; Lamm, Batson, & Decety, 2007). Alfred Adler suggested that "empathy is necessary element in connecting to others, including a sense of other that extends beyond the human" (as cited in Ansbacher, 1991, p. 31). If empathy is necessary for the self to connect with others, lower levels of empathy suggest weaker bonds between people. These weaker bonds affect the interconnectedness between clients in their social sphere that counseling literature recognizes as vital to optimal functioning.

Though declining empathy is concerning for clinicians interested in increasing client wellness, there is reason for hope. Recent discoveries in neuroscience suggest that empathic capacity can be cultivated. One way researchers have explored increasing empathy is through exposure (Cozolino, 2010). Studies demonstrate that implicit bias or racism can be reduced by increasing contact with individuals from different cultures (Aberson, Shoemaker, & Tomolillo, 2004; Rudman, 2004). In essence, contact with others can increase a sense of connection. This connection, in turn, takes the form of concern for others whose lives are not necessarily linked to one's own. Given the studies

suggesting that exposure to other cultures can increase understanding for those who are different from the self, there is reason to speculate that increasing this sense of connection to others might be a way to reverse the trend of declining empathy. A similar process is also brought about by the rich learning environment of counseling (Cozolino, 2010). Clients exposed to the core condition of counseling typically demonstrate higher levels of empathy (Gerdes, Segal& Lietz, 2010). In this sense, counseling, with its balance of empathic support and challenge, might be an avenue for mitigating this decline in empathy.

Nature Relatedness

Evolutionary biologist E.O. Wilson argues that human beings possess a need to connect with other living things. His *biophilia hypothesis* suggests that human beings "have an innate love for the natural world, universally felt by all, and resulting at least in part from our genetic make-up and evolutionary history" (Bratman, Hamilton, & Daily, 2012, p. 119). Humans began living separately from nature relatively late in our evolutionary history. For this reason, Kellert and Wilson (1995) suggest that it would be unlikely for us to have purged all we once knew about nature's value from our biology. The human connection to nature also emerges in counseling literature. Reese & Myers (2012) propose adding an additional factor to the Indivisible Self Model (Myers & Sweeney, 2004) called EcoWellness. Based on Adler's belief that humans yearn for a sense of oneness with all of life, which he called *Gemeinschaftsgühl* (Adler, 1927), EcoWellness emphasizes the connections between "people and nature and the impact of those connections" (Reese & Myers, 2012, p. 401) .

Because EcoWellness is as at this point conceptual rather than actual, a review of

the literature suggests many researchers prefer the construct of Nature Relatedness (Nisbet, Zelenski, & Murphy, 2011; Nisbet, Zelenski, & Murphy, 2009; Weinstein, Przybylski, & Ryan, 2009). The concept of Nature Relatedness captures people's individual levels of connection with the natural world (Nisbet, Zelenski, & Murphy, 2009). Nisbet likens Nature Relatedness (NR) to the ecological self of deep ecology, which suggests that person's self-concept includes the natural world. Other aspects of NR include "appreciation for and understanding of our interconnectedness with all other living things on earth" (Nisbet, Zelenski, & Murphy, 2009, p. 718). Nature relatedness is a trait-like quality that speaks to "an understanding of the importance of all aspects of nature, even those that are not aesthetically appealing to humans" (Nisbet, Zelenski, & Murphy, 2009, p. 718).

Nature relatedness is associated with several prosocial correlates. Weinstein, Przybylski, & Ryan (2009) argue that nature relatedness is linked to the valuation of intrinsic rather than extrinsic aspirations. Intrinsic aspirations tend to focus on others while extrinsic aspirations to emphasize the self. Specifically, Weinstein, Przybylski and Ryan (2009) demonstrated that people exposed to nature transcend their own needs by increasing attitudes and actions associated with the well-being of others. Research studies by Zelenski and Nisbet (2014) point to nature relatedness as a distinct marker of happiness indicators. In particular, nature relatedness was strongly linked to positive affect. These previous studies suggest that feeling a strong connection to nature is related to more optimal functioning intra- and interpersonally. This finding is supported by previous studies suggesting significant health benefits associated with exposure to the natural environment. Engagement with nature is linked to increased healing time

following surgery (Ulrich, 1984), reduced stress (Ryan et al., 2010), and overall higher

levels of health and wellness (Maller, Townsend, Pryor, Brown, & St Leger, March

2006; Nielsen & Hansen, 2007; Pretty et al., 2007).

At present, there is no research suggesting that nature relatedness has declined

with the Millennial generation. However, researchers have noticed some changes

indicative of a decline in this particular construct. The first is that Millennials spend less

time outdoors than previous generations (Bratman, Hamilton, & Daily, 2012). Journalist

Richard Louv coined the non-diagnostic term Nature Deficit Disorder (NDD) to capture

the disconnection between young people today and the natural world. The second feature

indicative of nature relatedness decline is that Millennials also seem to care less for the

environment than previous generations. Comparing samples from *Monitoring the Future*

and the *American Freshman Survey* against established measures of life goals, Twenge et

al. (2012) report that Millennials rated extrinsic goals, such as being financially well off,

having administrative responsibility for others, and community leadership, as much more

important than intrinsic goals, such as having a philosophy of life, finding purpose, and

becoming involved in programs to clean up the environment. This shift in attitudes aligns

with previous research linking exposure and concern (Aberson, Shoemaker, & Tomolillo,

2004; Rudman, 2004). Given their lack of contact with nature and the focus on extrinsic

goals, it seems plausible that Millennials might be low on measures of nature relatedness.

In light of previous research and established dispositional trends, it appears worthwhile to

explore this construct within this generation.

Dispositional changes among the Millennial generation

As these studies demonstrate, Millennials with higher narcissism, lower empathy,

and greater disconnection from nature may find it difficult to connect with the experience

of others and the broader world. At this point, causal explanations are largely speculative.

The two most prominent explanations for these changes tend to focus on the rise of

technology and the decreasing amount of time spent in the natural world. These

explanations hinge on the insight that there is a reciprocal relationship between

personality and the environment (Gentile, Twenge, & Campbell, 2010; Twenge & Nolen-

Hoeksema, 2002; Twenge, Campbell, & Freeman, 2012).

While researchers and popular writers disagree about many trends within the

Millennials, they do agree that this cohort is the most technologically-connected

generation to date. College students in the United States engage in some type of media

accessing-technology an estimated 9.5 hours per day (Odell, Korgen, Schumacher, &

Delucchi, 2000). More than eight-in-ten Millennials say they sleep with a cell phone next

to the bed   (Taylor, Paul & Keeter, Scott, 2010). Combining internet, telephone, text

messaging, and television usage, there has been a 350% increase in exposure to

information in the past 30 years (Bohn & Short, 2009).

Furthermore, this particular generation has grown up at a time when people

generally experience less contact with nature than any previous generation, with nearly

90% of Millennials' lives are spent inside buildings (Bratman, Hamilton, & Daily, 2012).

Reduced time in nature is likely to be related to several factors including increased

technology usage, the discouragement and occasionally, criminalization of outdoor play,

and parental fears about the dangers of outdoors (Louv, 2008).

Given the amount of time people spend with technology coupled with how little

time they spend in the natural world, it stands to reason that these changing behaviors

could impact the dynamic between the self, others, and the broader world in the Millennial generation. Certainly, the argument is made that technology connects people; technology, however, also works as a mediator. The internet could make it easier to find friends, but this would not necessarily translate into more meaningful relationships, particularly of the sort that enhance, as Adler calls it, *Gemeinschaftsgehühl*, or oneness with the self, others, and the universe (Adler, 1927). There is evidence in favor of this assertion. Selhub & Logan (2012) found links between heavy internet use and low scores of emotional intelligence, or a person's ability to use verbal and nonverbal cues to monitor the emotional states of others. Their research demonstrates what author Richard Louv predicted when he proposed the idea of Nature Deficient Disorder (NDD) in his book *Last Child in the Woods*. Louv (2008) argues that human beings, particularly children, will experience behavioral, personality, and interpersonal shifts as a result of technology saturation and a lack of exposure to nature. Louv suggests that a reliance on technologically mediated experiences deteriorate our sense of connectedness to others as well as to the natural world.

Current theory supports the notion that optimal health is reciprocally related to a person's engagement with the self, others, and the environment (Myers & Sweeney, 2004). Technology use and the move indoors appear to have changed how Millennials relate to all three of these dimensions (Selhub & Logan, 2012). As previously mentioned, generational researchers have identified several specific changes among this current cohort of young people, such as increased narcissism, decreased empathy, and less time in nature. As counselors interested in promoting wellness among individuals and communities, there is a compelling argument for understanding the connection between

these changes so that we might mitigate their impact on the functioning of clients. The purpose of this study is to identify the relationship between narcissism, empathy, and nature relatedness in the Millennial generation so that clinicians might select interventions that could ameliorate these changes. Armed with a more accurate understanding of the distinctive characteristics of this cohort, clinicians can more appropriately address and mitigate these alarming trends.

Hypothesis

At present, explanations for the rise in narcissism and decrease in empathy are largely speculative. There are many plausible hypotheses that might explain this phenomenon, but all rely on the insight that there is a reciprocal relationship between personality and environment (Gentile, Twenge, & Campbell, 2010; Twenge & Nolen-Hoeksema, 2002; Twenge, Campbell, & Freeman, 2012). Because causality is impossible to isolate, correlation between phenomena can be a valuable way to make sense of broader changes. To understand correlates is to gain some insight into indicators for narcissism and empathy. These indicators can be useful for providing empirical support for choosing specific interventions when working with this population.

Given previous research, I hypothesize that a person's connection to nature, their nature relatedness, is related to their levels of narcissism and empathy. Specifically, I predict that nature relatedness is positively related to empathy, but negatively related to narcissism, while empathy will be indirectly related to their level of narcissism. These hypotheses are in keeping with the findings of previous studies utilizing the Nature Relatedness Scale, which found evidence that nature connectedness was consistently associated with pro-social qualities such as autonomy, personal growth, purpose in life, and positive affect (Cervinka, Röderer, & Hefler, 2012; Nisbet, Zelenski, & Murphy, 2011).

Methodology

Subjects

Subjects were 140 undergraduate students at James Madison University, who volunteered to participate in order to receive course credit for a departmental experiment requirement. The subjects included 110 women and 30 men, who ranged in age from 18 to 31 years old, with the mode age range being 18-24 (97%). All participants would be classified as Millennials in that they were born between 1982 and 2001. Demographic information collected from the participants suggests that 87% identified as Caucasian/White, 8% as Black/African-American, 2% as Latino/Hispanic, and 1% as Native American, Asian American, and bi-racial. All participants were classified as undergraduates with 48% freshman, 36% sophomores, 14% juniors, and 2% seniors.

Procedure

Demographic data were collected from all subjects through the online Qualtrics survey software. All subjects were then administered three personality assessments, the Narcissistic Personality Inventory – 16 (NPI-16), the Interpersonal Reactivity Index (IRI), and the Nature Relatedness Scale (NRS). The results from these assessments were correlated in SPSS to determine if there was a relationship between the factors in each construct (See Appendix 1).

Instruments

The Narcissistic Personality Inventory (NPI) is the most widely used instrument to measure narcissism in the general population (Twenge, Konrath, Foster, Campbell, &

Bushman, 2008a). Narcissism as a construct refers to a combination of personality traits that involve a sense of grandiosity coupled with a fragile sense of self (Ames, 2006). The NPI is not a clinical instrument for diagnosing narcissistic personality disorder as there is not a cut-off score related to this instrument (See Appendix 1). The NPI-16 parallels the older, established measure, the NPI-40 (Raskin & Terry, 1988). However, the 40-question assessment would be impractical in situations of time pressure or respondent fatigue. Ames et al. (2006) drew on items from the NPI-40 to capture aspects of dispositional narcissism such as factors of exploitiveness/entitlement and self-absorption/self-admiration (Emmon, 1987) and authority and self-sufficiency (Raskin & Terry, 1988). Eventually, 16 items were chosen based on face validity and the coverage of domains.

Ames (2006) reported strong psychometric properties. The NPI-16 demonstrated convergent and discriminate validity, predictive validity as well as strong test-retest reliability (0.85). The NPI-16 is also protected from the social desirability bias because it utilizes forced-choice dyads (Twenge, Konrath, Foster, Campbell, & Bushman, 2008a) . In each question, the respondent is required to choose either the narcissistic response ("I really like to be the center of attention") or the non-narcissistic response ("It makes me uncomfortable to be the center of attention.") The NPI-16 serves as a strong instrument for measuring narcissistic traits in situations that do not readily fit into the lengthier inventories.

The Interpersonal Reactivity Index (Davis, 1980) is an instrument designed to measure the multi-dimensional aspects of empathy. Davis designed the IRI to capture both the cognitive and emotional aspects of empathy in an instrument that could be easily

administered and scored. Dispositional empathy can be understood as the tendency to

react to other people's observed experiences (Davis, 1983a). In this study, researchers

divided dispositional empathy into four separate categories: perspective taking (PT),

empathic concern (EC), fantasy (FS), and personal distress (PD). Perspective taking (PT)

is the reported tendency to spontaneously adopt the psychological point of view of others

in everyday life. Empathic concern (EC) is the tendency to experience feelings of

sympathy and compassion for unfortunate others. Fantasy (FS) indicates an ability to

identify imaginatively with fictional characters in books or movies. Personal distress

(PD) concerns self-oriented feelings of distress during others' misfortunes (Davis,

1983b).

Davis (1980) reported that the IRI has strong psychometric properties. Internal

reliability, as demonstrated by the standardized alpha coefficients, was similar for both

men and women on all of the subscales. The IRI yields strong test-retest reliability

coefficients (FS: 0.79, 0.81; PT: 0.61, 0.62; EC: 0.72, 0.70; PD: 0.68, 0.76). The IRI also

has strong internal and external validity. Because the instrument was developed with

items drawn from established scales, the IRI is likely valid with regard to content. Sex

differences detected on each scale were also consistent with previous research

(Mehrabian & Epstein, 1972). The consistency of IRI scores to previous research

suggests external validity for the instrument.

The Nature Relatedness Scale (NR) is an instrument designed to measure the

affective, cognitive, and experiential aspects of a person's connection to nature (Nisbet,

et. al, 2009). Based on previous environmental measures, literature reviews, and the

construct of nature relatedness, the NR measures three factors: NR-Self, NR-Perspective,

and NR-Experiences. The NR-Self is thought of as the ecological self, or a measure of how strongly people identify with the natural world. The NR-Perspective refers to how a person's attitude to nature is manifested through approach and behavior. The third factor, NR-Experience reflects a person's physical familiarity and attraction to nature (Nisbet, et. al, 2009).

The instrument demonstrates good internal consistency; Cronbach's alpha for the full scale was 0.87, and 0.84, 0.66, and 0.80 for three factors comprising nature relatedness. Test-retest correlations were also strong for the entire inventory (0.85) as well as the individual factors (0.81; 0.6; 0.85). The NR Scale also suggests reliability and validity when correlated with other environmental scales, behavior, and frequency of time in nature.

Responses to the three assessments were calculated and averaged. Overall, NPI

scores were normally distributed and ranged from 19 to 27, with a mean of 23.93. IRI

scores were also normally distributed and ranged from 73 to 107, with a mean of 88.26.

NC scores were normally distributed and ranged from 44 to 77, with a mean of 59.96 *(see*

Table 1).

Table 1. Descriptive statistics of data

	Minimum	Maximum	Mean	Mode	Std. Deviation
Narcissism	19	28	23.93	24	1.557
Empathy	73	107	88.26	89	7.498
Nature Relatedness	42	79	59.96	60	6.833

Table 2. Correlations of total assessment scores

		Narcissism	Empathy	Nature Relatedness
Narcissism	Pearson Correlation	1	.030	.048
	Sig. (2-tailed)		.726	.571
Empathy	Pearson Correlation	.030	1	.308[**]
	Sig. (2-tailed)	.726		.000
Nature Relatedness	Pearson Correlation	.048	.308[**]	1
	Sig. (2-tailed)	.571	.000	
**. Correlation is significant at the 0.01 level (2-tailed).				

As predicted, there was a positive relationship between empathy and nature

relatedness *(see Table 2)*. The data suggests there is an statistically significant

relationship between the Empathy and Nature Relatedness (r=.308, p= 0.01) with a

medium effect size. In this study, the data indicated no relationship between empathy and

narcissism or between narcissism and nature relatedness. Both of these results

contradicted the original hypothesis that empathy and narcissism and narcissism and

nature relatedness would both be inversely related.

Table 3. Correlations of NPI-16 Scores and IRI subscale scores

		Narcissism	Empathic Concern	Fantasy	Personal Distress	Perspective Taking
Narcissism	Pearson Correlation	1	-.102	-.022	.250[**]	-.060
	Sig. (2-tailed)		.230	.794	.003	.477
Empathic Concern	Pearson Correlation	-.102	1	.042	-.042	.472[**]
	Sig. (2-tailed)	.230		.618	.618	.000
Fantasy	Pearson Correlation	-.022	.042	1	.404[**]	-.029
	Sig. (2-tailed)	.794	.618		.000	.733
Personal Distress	Pearson Correlation	.250[**]	-.042	.404[**]	1	-.072
	Sig. (2-tailed)	.003	.618	.000		.398
Perspective Taking	Pearson Correlation	-.060	.472[**]	-.029	-.072	1
	Sig. (2-tailed)	.477	.000	.733	.398	

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

When narcissism scores were correlated with subscales of the IRI,

there was no relationship between narcissism and three of the four aspects of empathy

(*see Table 3*). The only statistically significant relationship between narcissism and an

empathy subscale was personal distress (r = 0.250, p=0.003).

Table 4. Correlations of Nature Relatedness scores and IRI subscale scores

		Nature Relatedness	Empathic Concern	Fantasy	Personal Distress	Perspective Taking
Nature Relatedness	Pearson Correlation	1	.142	.207*	.402**	.222**
	Sig. (2-tailed)		.093	.014	.000	.008
Empathic Concern	Pearson Correlation	.142	1	.042	-.042	.472**
	Sig. (2-tailed)	.093		.618	.618	.000
Fantasy	Pearson Correlation	.207*	.042	1	.404**	-.029
	Sig. (2-tailed)	.014	.618		.000	.733
Personal Distress	Pearson Correlation	.402**	-.042	.404**	1	-.072
	Sig. (2-tailed)	.000	.618	.000		.398
Perspective Taking	Pearson Correlation	.222**	.472**	-.029	-.072	1
	Sig. (2-tailed)	.008	.000	.733	.398	
*. Correlation is significant at the 0.05 level (2-tailed).						
**. Correlation is significant at the 0.01 level (2-tailed).						

Correlations between nature relatedness and the individual subscales within the IRI suggest that there are relationships of varying strength within the construct of empathy. While all four aspects of dispositional empathy were positively correlated with nature relatedness (*see Table 4*), Nature Relatedness/Empathic Concern did not meet the criteria for statistical significance. However, there was a small effect size for the NR/EC correlation (r=0.13, p=0.09). The positive correlations between Nature Relatedness and the other three subscales were found to be statistically significant (NR/F: r=0.207, p=0.014; NR/PD: r=0.404, p=0.0001; NR/PT: r=0.222, p=0.008). The strongest, most statistically significant relationship was found between Nature Relatedness and Personal

Distress (r=0.404, p=0.0001).

Discussion

The study's primary purpose was to measure and evaluate the link between the constructs of narcissism, empathy, and nature relatedness. The data suggest that the null hypothesis was confirmed for the relationship between narcissism and empathy, and between nature-relatedness and narcissism. However, the null was rejected for the relationship between nature-relatedness and empathy. Nature relatedness robustly correlated with total scores of empathy, as well as the individual subscales measured by the IRI. This pattern supports the idea that there is a link between a person's ability to connect with the experience of others and that person's overall sense of connection to the natural world.

The data suggest that connection to nature might account for roughly 10% of a person's total empathy package. In this sense, findings were in keeping with what would make sense intuitively. For instance, it would be strange to suggest that a person's connection to nature would be more important that other aspects of that person, such as their experiences with other people. Were the correlation stronger than 0.31, that might also have implications for individuals who have not had exposure to nature.

The strongest relationship between Nature Relatedness and dispositional empathy was found between Nature Relatedness and Personal Distress (r=0.404, p=0.0001). This finding is supported by previous studies by Nisbet et al. (2009), which suggest that people higher in NR tended to report more environmental concern and endorsement of pro-environmental attitudes. This study also underscores prior research that found a relationship between Nature Relatedness and conscientiousness (Nisbet, Zelenski, & Murphy, 2009).

The study also suggests that people who are higher in nature relatedness tend to be lower in narcissistic qualities. While additional studies would be needed to provide further evidence, increasing nature relatedness might be a way to address the increase in narcissistic traits. It seems plausible that if people recognize the relationship they have to the natural world, they could potentially develop a sense of empathy for all living beings (Feral, 1998). Although speculative, fostering a sense of connection to nature could be a possible way to address the decline of empathy. Inversely, fostering a sense of empathy could also be a possible way to address the decline in environmental concern.

Implications for Counseling

Modern paradigms of wellness in the counseling field acknowledge the value of a person's connection to the self, others, and the natural world (Myers, Sweeney & Witmer, 2000). The results of this study perhaps prompt some self-examination on the part of counseling clinicians who utilize an individual-autonomy centered approach in working with Millennials. Rollo May captures this clinical anxiety when he wrote:

> We in America have become a society devoted to the individual self. The danger is that psychotherapy becomes a self-concern, fitting...a new kind of client...the narcissistic personality...We have made of therapy a new kind of cult, a method in which we hire someone to act as a guide to our successes and happiness. Rarely does one speak of duty to one's society- almost everyone undergoing therapy is concerned with individual gain, and the psychotherapist is hired to assist in this endeavor. (as cited in Doherty, 1995, p.12)

May's statement may sound descriptive of the current state of affairs for clinicians working with Millennials. Millennial clients often approach counseling, not as a means for insight, but as an intervention for increasing personal success (Greenberger, Lessard, Chen, & Farruggia, 2008). Symptom reduction is frequently couched within the framework of extrinsic values (i.e. reduced performance anxiety for better grades; reduced social anxiety to attract high status partners). There is a risk that by employing an individualistic approach, counseling could re-enforce individualistic or even narcissistic goals among Millennials (McCabe, 2013).

May's critique that counseling should not be for the individual alone, but an intervention for the interplay of a person within a system is perhaps a call to reconsider

how clinicians work with Millennials. In particular, clinicians should consider approaches that enhance the empathic capacities of clients. As mentioned previously, empathy is the key to connecting with the world (Adler, 1927). What the field has discovered from advances in neuroscience is that empathy is a capacity that can be learned or developed through practice (Cozolino, 2010). The unique core conditions of counseling (Rogers, 1950) make therapy an ideal learning environment for increasing empathy. Clinicians may also find value in working from a more explicitly community-centered approach. Community-centered approaches "encourage meaningful engagement with others and the natural world by asserting that the therapy process can synergistically work with both the inner and outer worlds of the client" (Doherty, 1995, p. 109).

In addition to adopting a community-centered approach, this study also supports using nature in interventions as a way to foster empathy among Millennials. While at this point, it would be impossible to say which came first – the nature relatedness and the empathy or the empathy-decline and nature-deficit – the fact that there is a statistically-significant connection is reason to support existing outdoor or nature-based interventions. Nature-based interventions already have evidence to support their value for increased health benefits, increased focused, and reduced mental health symptoms (Barros, Silver, & Stein, 2009; Burdette & Whitaker, 2005; Hartig, Mang, & Evans, 1991; Kuo & Taylor, 2004; Pedretti-Burls, 2007; A. F. Taylor, Kuo, & Sullivan, 2001; A. F. Taylor & Kuo, 2009). This study provides empirical evidence supporting the use of nature-based approaches in the counseling room. These interventions make use of a therapeutic dynamic Carl Jung identified in a dream seminar he gave in 1928. Jung said, "Matter in the wrong place is dirt. People got dirty through too much civilization. Whenever we

touch nature, we get clean" (McGuire et al., 1984, p. 142). For Millennials, who have experienced, as Jung called it, "too much civilization", the renewing properties of the natural world offer some evidence-based solutions for reconnecting with their social and environmental systems.

Limitations and future directions

One significant limitation of this study was the fact that the data measuring empathy, narcissism, and nature connectedness were collected indirectly. While the researcher did not identify the assessment instruments used in the Qualtrics survey, it is plausible that participants felt pressure to answer in pro-social manners. Future research could include social desirability instruments such as the Marlowe-Crowne Social Desirability Scale (Crowne & Marlowe, 1960) to weigh sample responses. Arguably, direct measures like observation would be an excellent qualitative addition to the study. Future studies in this vein could use a mixed-method rather than a purely quantitative approach. Another possible direction for research would be to conduct a cross-generational meta-analysis similar to the studies conducted by Konrath (2009) and Twenge (2008a). Sample collection would require extensive time to complete given recent development of the Nature Relatedness Scale. This sort of study would benefit clinicians addressing the needs specific to each generation going forward from the present.

Although the data were collected through self-report and the analyses were correlational, it was possible to establish a statistically significant relationship between nature relatedness and dispositional empathy. Limitations to this study are principally found in the fact that the sample size was largely homogenous. Most subjects were Caucasian and female, and for that reason, the participants might not accurately reflect the experience of a broader section of the Millennial generation. The convenience sample of college students also leaves out the 40 to 50 percent of Millennials who do not attend college. For this reason, we do not have a full picture of the generation.

Because the study was cross-sectional, it was difficult to determine a causal link between any of the constructs. For instance, nature relatedness may stem from greater empathy or empathy may arise from stronger connections to nature. Similarly, higher narcissism may stem from weak connections to the natural world, or perhaps the other way around. Even though causality cannot be established, the statistically significant relationship between nature relatedness and empathy suggest that a person's relationship to the natural world has consequences for a persons' overall functioning.

Further research could involve a greater diversity of subjects. It would also be interesting to explore the impact on empathy after increasing one's intentional participation in nature. Previous studies have linked better physical and mental health outcomes with nature (Nielsen & Hansen, 2007; Ryan et al., 2010; Ulrich, 1984) . It would be interesting to see if a variety of natural activities could increase an individual's level of empathy. Considerable research exists on the benefits of animal therapy as a way of fostering empathy. Further studies could examine specific variables within natural experience: indoor versus outdoor; active versus passive; urban versus rural; structured versus self-determined.

This study is a modest step in the direction of understanding the causes and perpetuating factors for the rise in narcissism and decrease in empathy among members of the Millennial generation. By demonstrating a relationship between nature and empathy, researchers and clinicians can better understand the sociocultural processes that are reinforcing these dispositional changes within the Millennial generation. By understanding the roots of the phenomenon, counselors can begin to think about interventions that might reverse these trends. The counseling field, given its unique

commitment to the health of a person as inseparable from their community, and their greater environment, is particularly suited to making use of these findings. Counselors can utilize this study as empirical evidence to support community-centered and nature-based approaches when working with Millennials.

Appendix 1. Assessment questions

The primary investigator is conducting an anonymous survey to help understand the relationship between personality and nature connectedness. Your input is vital to accomplishing this goal. We would greatly appreciate it if you would take a few moments and provide us your perspective by completing the survey launched by the link below. The survey will consist of four parts. The first part will ask you questions about your personal and academic background. The second, third, and fourth parts will ask you questions about your personality and interests.

PART 1 of 4: Personal and Academic Background
Your gender:
- Female
- Male

Your age:
- 18-24
- 24 – 30
- 31- and above

Your race/ethnicity:
- Native American
- Asian American
- Bi-Racial/Multi-Racial
- Black/African American
- Hawaiian/Pacific Islander
- Latino/Hispanic American
- White/Caucasian
- Other

Your academic level:
- Freshman
- Sophomore
- Junior
- Senior

PART 2 of 4: Personality Assessment 1

This inventory consists of a number of pairs of statements with which you may or may not identify.

Consider this example:
A. I like having authority over people
B. I don't mind following orders

Which of these two statements is closer to your own feelings about yourself? If you identify more with "liking to have authority over people" than with "not minding following orders", then you would choose option A.

You may identify with both A and B. In this case you should choose the statement which seems closer to yourself. Or, if you do not identify with either statement, select the one which is least objectionable or remote. In other words, read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by writing the letter (A or B) in the space provided to the right of each item. Please do not skip any items.

1	__	I really like to be the center of attention
	__	It makes me uncomfortable to be the center of attention
2	__	I am no better or no worse than most people
	__	I think I am a special person
3	__	Everybody likes to hear my stories
	__	Sometimes I tell good stories
4	__	I usually get the respect that I deserve
	__	I insist upon getting the respect that is due me
5	__	I don't mind following orders
	__	I like having authority over people
6	__	I am going to be a great person
	__	I hope I am going to be successful
7	__	People sometimes believe what I tell them
	__	I can make anybody believe anything I want them to

8	__	I expect a great deal from other people
	__	I like to do things for other people
9	__	I like to be the center of attention
	__	I prefer to blend in with the crowd
10	__	I am much like everybody else
	__	I am an extraordinary person
11	__	I always know what I am doing
	__	Sometimes I am not sure of what I am doing
12	__	I don't like it when I find myself manipulating people
	__	I find it easy to manipulate people
13	__	Being an authority doesn't mean that much to me
	__	People always seem to recognize my authority
14	__	I know that I am good because everybody keeps telling me so
	__	When people compliment me I sometimes get embarrassed
15	__	I try not to be a show off
	__	I am apt to show off if I get the chance
16	__	I am more capable than other people

	__	There is a lot that I can learn from other people

PART 3 of 4: Personality Assessment 2

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 at the top of the page: A, B, C, D, or E. When you have decided on your answer, fill in the letter on the answer sheet next to the item number. READ EACH ITEM CAREFULLY BEFORE RESPONDING. Answer as honestly as you can. Thank you.

ANSWER SCALE:

        A   B   C   D   E
        DOES NOT   DESCRIBES ME
        DESCRIBE ME   VERY
        WELL   WELL

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

2. I often have 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.

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

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

6. In emergency situations, I 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.

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

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

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

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

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

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

14. Other people's misfortunes do not usually 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.

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

17. Being in a tense emotional situation scares me.

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

19. I am usually pretty effective in dealing with emergencies.

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

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

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

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

24. I tend to lose control during emergencies.

25. When I'm upset at someone, I usually try to "put myself in his 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.

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

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

PART 4 of 4: Personality Assessment 3

For each of the following, please rate the extent to which you agree with each statement,
using the scale from 1 to 5 as shown below. Please respond as you really feel, rather than
how you think "most people" feel."

1	2	3	4	5
Disagree Strongly	Disagree a little	Neither Agree nor Disagree	Agree a little	Agree Strongly

_____1. I enjoy being outdoors, even in unpleasant weather.

_____2. Some species are just meant to die out or become extinct.

_____3. Humans have the right to use natural resources anyway we want.

_____4. My ideal vacation spot would be a remote, wilderness area.

_____5. I always think about how my actions affect the environment.

_____6. I enjoy digging in the earth and getting dirt on my hands.

_____7. My connection to nature and the environment is a part of my spirituality.

_____8. I am very aware of environmental issues.

_____9. I take notice of wildlife wherever I am.

_____10. I don't often go out in nature.

_____11. Nothing I do will change problems in other places on the planet.

_____12. I am not separate from nature, but a part of nature.

_____13. The thought of being deep in the woods, away from civilization, is frightening.

_____14. My feelings about nature do not affect how I live my life.

_____15. Animals, birds, and plants should have fewer rights than humans.

_____16. Even in the middle of the city, I notice nature around me.

_____17. My relationship to nature is an important part of who I am.

_____18. Conservation is unnecessary because nature is strong enough to recover from any human impact.

_____19. The state of non-human species is an indicator of the future for humans.

_____20. I think a lot about the suffering of animals.

_____21. I feel very connected to all living things and the earth.

Thank you for your feedback. Please click 'Submit' below

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