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Running head: NOSTALGIA, SOCIAL EXCLUSION, AND EMPATHY

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The Relationship Between Nostalgia, Social Exclusion, and Empathy

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Declaration of Authorship

I, **Filippo Cordaro**, declare that the work presented in this document is my own, and has been generated by me as the result of my own original research.

Signed:

Date: 19th November 2010

Thesis Outline

As a positive, social emotion, nostalgia has the potential to reduce the negative impact of social exclusion on empathy. I ran a series of experiments in order to establish the relationship between nostalgia, social exclusion, and empathy. In Studies 1 and 2, participants were instructed to recall either a nostalgic or ordinary autobiographical experience and then read an essay ostensibly written by another participant describing a physically painful ordeal. Afterwards, the participants were asked to report the level of empathy that they felt for the person who wrote the essay. Participants who had previously recalled a nostalgic event reported significantly higher levels of empathy than those who had recalled an ordinary event. In Studies 3 and 4, participants were given randomly assigned future alone, future belonging, or control feedback. Participants who were given future alone (compared to future belonging or control) feedback reported significantly higher levels of nostalgia. Study 5 examined nostalgia's ability to directly counteract social threats. Individuals who were exposed to a future alone (compared to future belonging) feedback reported lower levels of empathy when they were instructed to recall an ordinary autobiographical experience. However, the future alone manipulation had no significant effect on empathy when participants recalled a nostalgic experience. The results suggest that nostalgia may function as an adaptive reaction to social exclusion, and can prevent people from becoming emotionally numb after being excluded.

Chapter 1: Theoretical Background

Development of Nostalgia as a Psychological Concept

Although nostalgia can be traced back thousands of years to epic poetry such as *The Odyssey*, the term was coined by a Swiss physician named Johannes Hofer, who formed the term from the Greek words *nostos* and *algos*, which mean “return” and “pain”, respectively (Hofer, 1688 /1934). The literal meaning of the original term meant that nostalgia was “the suffering caused by the yearning to return to one’s place of origin.” Hofer’s original conception of “nostalgia” is an idea that is very similar to our modern conception of “homesickness”, and it was this lack of distinction between the two now separate concepts that was largely responsible for the general dearth of psychological literature that analyzed nostalgia specifically.

When Hofer initially coined the term, he utilized it to refer to a particular type of neurological disorder, rather than an emotional state. It was used originally to refer to a set of symptoms that he had observed in Swiss mercenaries that had spent long periods of time fighting away from home. The symptoms of this “nostalgic disease” included persistent thinking of home, melancholia, fever, heart palpitations, loss of thirst, and smothering sensations, among others (McCann, 1941).

The initial idea of nostalgia is entirely different than what we understand it to be today, and reaching this modern understanding took centuries. Hofer’s idea of nostalgia as a neurological disease was widely accepted by his contemporaries, with the only real debate being over the possibly physiological causes of this disease rather than any sort of misunderstanding about nostalgia itself. For example, in 1732, J.J. Scheuchzer proposed that nostalgia was caused by sharp differences in atmospheric pressure, which would

drive blood from the brain to the heart; hence its ostensible prevalence among Swiss mercenaries fighting in the lowlands of Europe (McCann, 1941).

Near the start of the 19th century, views about nostalgia finally began to shift in a different direction. Nostalgia ceased to be a neurological disease, but it did remain an overwhelmingly negative phenomenon. The prominent view throughout this period up until the later part of the 20th century regarded nostalgia as a type of depression (Rosen, 1975; McCann, 1941). Part of the reason behind this drastically different, negative view of nostalgia is that it was treated as being synonymous with “homesickness”. Many of the most prominent researchers of this era used the words interchangeably, with seemingly no discernable differences between the idea of “homesickness” and “nostalgia” (Wildschut et al., 2006; McCann, 1941).

The confusion and misunderstanding about nostalgia continued until the late 1970s. The groundbreaking research of Fred Davis (1977, 1979) was the first to look at nostalgia as an entirely independent concept from homesickness, and his studies were the catalyst for modern nostalgia research. Davis (1979) demonstrated that people do recognize nostalgia and homesickness as separate concepts. He found that certain words such as *warm*, *old times*, *childhood* and *yearning* were more readily associated with “nostalgia” rather than “homesickness” finally demonstrating a noticeable difference between the two (Davis, 1979). Today, nostalgia is universally recognized as a related but different construct from homesickness, which is reflected in the dictionary definitions for the two words. *The New Oxford Dictionary of English* defines nostalgia as “a sentimental longing for the past”, whereas homesick is defined as “to experience a longing for one’s home during a period of absence from it”.

Nostalgia Research Related to Marketing and Consumer Preferences

The long period of misunderstanding regarding nostalgia is mainly responsible for the lack of dedicated research on the topic. Psychologists have been researching homesickness for over a century, but since nostalgia was not actually recognized as a separate concept until Davis' research, there is a relative dearth of research. Until very recently, research on nostalgia had been limited to the areas of consumer preferences, marketing, and advertising psychology. For instance, Holbrook (1993) analyzed the relationship between nostalgia proneness and consumption preferences, and Schindler and Holbrook (2003) investigated nostalgia as a determinant of consumer preferences. It is through this type of research that we learned nostalgia is responsible for consumers forming a lifelong preference to, among other things, the popular music they experience in their late teens and early twenties. More recently, research found that this "nostalgia effect" carried over to products besides arts that were not wholly aesthetic, such as automobiles (Schindler and Holbrook, 2003).

This type of research is important, particularly because it helps us to understand why people have a tendency to become so attached to various knickknacks and reminders of their youth. This research also helps us understand why nostalgia is used strategically in media campaigns to sell a variety of products. Companies constantly re-release old products in order to awaken positive feelings of nostalgia, whether the product is a clothing style (e.g., flared jeans), video game (e.g., Mario Bros.), or automobile model (e.g., VW Bug). From the constant musical genre comebacks to the continually re-released Nintendo games, nostalgia is a prevalent phenomenon in the world of marketing. Still, there is more to nostalgia than selling products. Researchers are continually

grappling with a number of issues surrounding nostalgia. For instance, what is the affective signature of nostalgia? What are the triggers of nostalgia? What does nostalgia do for us? These are just some of the questions that psychologists have recently begun to examine.

Content, Triggers, and Functions of Nostalgia

Affective Signature of Nostalgia

What kind of emotion is nostalgia? Is it positive, negative, or somewhere in between (Sedikides, Wildschut, and Baden, 2004; Wildschut et. al, 2006)? Empirical evidence exists that can be interpreted from both directions. The progenitor of modern nostalgia research, Fred Davis (1979), proposed that nostalgia was an predominantly positive emotion and defined it as a “positively toned evocation of a lived past” (p. 18). He based this assumption on the fact that participants in his research associated positive words such as “happiness”, “satisfaction”, and “love” with “the nostalgic experience” while more negative word such as “frustration”, “hate”, and “despair” were almost never associated with the nostalgic experience (Davis, 1979). This sentiment was supported by Batcho (1995, 1998), who also suggested that nostalgia was important in strengthening interpersonal relationships. The idea that nostalgia was associated with positive affect was also shared by a number of other researchers, including Gabriel (1993), Holak and Havlena (1998), and H. A. Kaplan (1987).

On the other hand, a number of researchers have focused on the more negative side of nostalgia. Several researchers have proposed that nostalgia is a form of mourning for the past, because nostalgic experiences often focus on some aspect of the past that is gone forever (Johnson-Laird & Oatley, 1989; Best & Nelson, 1985; Hertz, 1990; Peters,

1985). Some researchers have even gone so far as to imply that a pathological type of nostalgia exists, in which people continually long for the past without ever accepting that it is over (Werman, 1977; Kaplan, 1987).

Nostalgia is not an entirely positive emotion. Empirical research has shown that there is an element of loss and longing associated with nostalgia (Wildschut et al., 2006). At the same time, there is much evidence to suggest that nostalgia is a predominantly positive emotion. When thinking nostalgically, most people report more positive than negative affect (Wildschut et. al, 2006). Research has also shown that when nostalgic experiences are mostly negative, they often wind up leading to a redemption sequence that transforms their negative story into a positive one (Davis, 1977; McAdams, 2001; McAdams, Reynolds, Lewis, Patten, & Bowman, 2001). In a recent experiment, Wildschut and colleagues (2006) had judges rate the presence of positive and negative feelings in nostalgic narratives. They found that while there was some negative affect, the narratives on the whole were much richer in positive affect. This recent study lends further evidence to the idea that nostalgia is a predominantly positive emotion.

Triggers of Nostalgia

Knowing the affective signature of nostalgia does not grant a full understanding of the complex emotion. In order to more fully understand nostalgia, researchers have been looking at the various stimuli that are capable of triggering nostalgic feelings. Nostalgia may be triggered passively by a number of stimuli that are associated with one's past. These stimuli can be social, such as the presence of friends, a birthday party, family members, photo albums, and reunions. They can also be non-social, such as objects, music, and scents. Any of these things are capable of passively triggering

nostalgia simply because they remind people of positive past experiences (Sedikides, Wildschut, & Baden, 2004).

Research suggests, however, that some of these triggers are more common than others. While tangibles, sensory inputs, and social interactions have all been linked with nostalgia, negative affect has been by far the most common trigger for nostalgia that people report. When asked about what types of situations make them feel nostalgic, people often mention periods of sadness or loneliness, explaining that nostalgia helps make them feel better (Wildschut et al., 2006). When Davis (1979) started his research on nostalgia and introduced it in a psychological context, he theorized that nostalgia occurs in periods of anxiety, fear, uncertainty, or general discontent. In this way, nostalgia serves as a defense mechanism against negative mood states.

Researchers have undertaken numerous experiments to confirm this, and the results have been consistent. In one example, experimenters split participants into three groups, and exposed each group to a news story. One group was asked to read a news story meant to evoke a positive mood, another was asked to read a neutral story, and the last group was asked to read a story that was meant to evoke a negative mood. Afterwards, all the participants were asked to complete a measure of nostalgia in which they rated how much they missed 18 items (Batcho, 1998). To illustrate, some of the items were “not having to worry”, “places”, “music”, “things I did”, “my childhood toys”, “the way people were”, “my family”, and “past TV shows / movies”. While there was no difference between the neutral and positive conditions, the participants in the negative mood condition reported significantly higher scores on the nostalgia scale. Additionally, the researchers found that these participants seemed to miss certain social

items such as “my family” or “someone to depend on” to an especially large degree (Wildschut et al., 2006).

In another experiment, participants were given false feedback on a test that seemingly measured loneliness. Some participants were told that they scored high in loneliness and others were told they scored low. The participants were then given the same nostalgia measure in which they were asked to rate how much they missed 18 items. As expected, those in the high loneliness condition had higher scores across the board, with the highest ratings of nostalgia once again being on social items (Wildschut et al, 2006). These findings were later replicated conceptually in another study involving Chinese participants, demonstrating that the results generalize across cultures (Zhou et al, 2008).

Recently, Wildschut and colleagues (2010) examined the relationship between loneliness and nostalgia more closely. In this series of studies, loneliness was positively associated with nostalgia, but only when attachment-related avoidance was low. Attachment-related individual differences do seem to have an important impact on how loneliness affects nostalgia. When asked to describe the circumstances under which they become nostalgic, low-avoidant participants were more likely than high-avoidant participants to identify loneliness as a trigger of nostalgia. Follow up studies found similar effects. For example, a questionnaire based follow up study found a positive association between loneliness and nostalgia, as well as a significant interaction between loneliness and avoidance. Follow up tests of simple effects found a positive association between loneliness and nostalgia when avoidance was low, but not when it was high.

Researchers know that many different types of stimuli can trigger nostalgia, but negative mood states appear to be the most prominent triggers. Of those, there seems to be a particular connection with loneliness, as people feel the most nostalgic about social experiences. While this alone hints that nostalgia could be related to social exclusion, a closer look is still required.

Functions of Nostalgia

Analyzing the functions of nostalgia is one way to gain a better understanding as to why certain stimuli have a greater tendency to elicit nostalgic feelings than others. In the literature so far, researchers have come across four possible functions. First, nostalgia has been proven a source of positive affect (Wildschut et al., 2006; Routledge, Arndt, Sedikides, & Wildschut, 2008). Second, nostalgia helps people to maintain positive self-esteem and self-image (Wildschut et al., 2006). Third, nostalgia helps foster stronger social bonds and affiliation with existing social groups (Wildschut et al., 2006). Finally, nostalgia functions as a supply of memories to help people fight existential threat and to prevent people from thinking that life is insignificant (Routledge et al., 2008; Juhl et al., 2010). These four are not necessarily the only possible functions of nostalgia, but they are the most prominent in regards to the current research.

Initial findings suggest that nostalgia serves 4 distinct functions, and Wildschut et al. (2006) tested the veracity of three of these. Based on other research, we know that positive feelings are associated with a variety of positive outcomes. For instance, positive affect has been linked with psychological resilience, and helps us to think more creatively (Fredrickson, 2001; Fredrickson, Tugade, Waugh, & Larkin, 2003). Going back to the affective signature of nostalgia, the majority of researchers agree that

nostalgia is a predominantly positive emotion. Given the predominantly positive nature of nostalgia, Wildschut et al. (2006) theorized that nostalgia serves to increase positive affect. As expected, asking participants to think nostalgically, compared to a control condition, elevated positive mood but had no effect on negative mood. Additionally, experimentally manipulated negative mood, compared to positive and neutral mood, increased nostalgia. Nostalgia, then, may serve a role in maintaining positive affect, which helps us to carry on in day to day activities.

In the same way that nostalgia helps maintain general positive affect, it also helps us to maintain a positive self concept. According to Davis (1979), nostalgia causes us to look back at our previous self with a more endearing light. Empirical evidence backs up this claim. Given that nostalgic memories are self-oriented, Wildschut and colleagues theorized that nostalgia increases self-esteem. As predicted, induced nostalgia boosted self-esteem. In addition, more recent studies found that induced nostalgia heightened the accessibility of positive self-attributes and attenuated the tendency to deploy self-serving biases in response to self-esteem threat (Vess, Arndt, Routledge, Sedikides, & Wildschut, in press).

Nostalgia is a social emotion. When people think nostalgically, they are symbolically strengthening the social bonds between themselves and the people they remember in their nostalgic experiences. In this way, those social bonds are strengthened despite the physical absence of the other people in the nostalgic experience. Nostalgia helps to create more meaningful bonds between people, which are especially useful during transitional periods in life or to help combat feelings of social exclusion. Based on the social nature of nostalgia, Wildschut et al. (2006) theorized that nostalgia

strengthens social connectedness. Preliminary experiments have found promising evidence of this relationship. For instance, individuals who recalled and wrote about nostalgic experiences demonstrated more secure attachment and stronger interpersonal bonds than those who recalled an ordinary experience (Wildschut et al., 2006; Zhou et al., 2008).

In a nostalgic experience, important figures from the past are brought to life and indirectly become part of one's present (Hertz, 1990). Nostalgia allows one to re-establish symbolic connections with significant others (Batcho 1998; Cavanaugh 1989; Sedikides et al. 2004). Re-experiencing these social bonds through nostalgic reverie helps fulfill one's need for belongingness, as well as affording a sense of safety and security (Leary and Baumeister, 2000; Mikulincer, Florian, and Hirschberger 2003). Further evidence of the social nature of nostalgia can be found in content analyses of nostalgic narratives. Nostalgic episodes usually involved interactions between the self and close others such as family members, friends, and romantic partners. These social interactions occurred in the context of momentous life events such as reunions, vacations, anniversaries, graduations, weddings, and childbirths (Holak and Havlena 1992; Wildschut et al. 2006).

Finally, Sedikides and colleagues (2004) proposed that nostalgia may serve as a tool that individuals can employ to perceive life as meaningful. One of the challenges we face as humans on an existential level is finding value and meaning in our own existence. However, being aware of the imminent and unavoidable nature of death creates anxiety. According to terror management theory, we face a powerful, paralyzing fear when allowed to dwell on death for extended periods of time (Greenberg, Pyszczynski, &

Solomon, 1986). The theory goes on to explain that people combat this existential threat in two ways; by adhering to and having faith in a cultural worldview, and by maintaining high levels of self esteem. Both of these functions can be filled by nostalgia, making it an instrumental emotion in staving off existential threat. Recent experiments have demonstrated the effectiveness of nostalgia in this regard. For instance, Routledge and colleagues (2008) examined nostalgia as a defense against the threat of death awareness. Their findings suggest that nostalgia serves a broader meaning-providing function. Routledge et al. (2008) demonstrated that, if nostalgia helps to embed one in a meaningful life story that offers existential protection, then both individuals high in trait nostalgia and individuals for whom nostalgia is experimentally induced would show attenuated terror management responses after mortality salience. This pattern was demonstrated in several studies. Individuals who scored higher in trait nostalgia perceived life to be more meaningful, and showed reduced accessibility to death related thoughts in response to reminders of death. Additionally, experimentally induced nostalgia decreased death thought accessibility after mortality salience. For instance, Juhl and colleagues (2010) found that nostalgia prone individuals reacted less negatively to mortality salience stimuli than those who were not nostalgia prone. Individuals who were low in nostalgia proneness also reported higher levels of death anxiety in response to mortality salience stimuli, whereas the same effect was not found for those high in nostalgia proneness. In more recent research, Routledge and colleagues (2010) demonstrated through several studies that nostalgia increases meaning in life.

These functions demonstrate that nostalgia can be an important emotion in maintaining positive affect and self-perception. I argue that nostalgia may also combat

certain types of emotional stresses. In particular, the idea that nostalgia can help individuals cope with socially aversive stimuli. If nostalgia is primarily triggered by loneliness, and leads to several positive, self-affirming functions, this is a logical direction to explore.

Current Research

The objective of the present thesis is to examine the relationship between social exclusion, nostalgia, and empathy. Specifically, nostalgia may have a restorative function following socially aversive feedback. Previous research has demonstrated that in some contexts, positive social interaction can reduce the negative impact of social exclusion. For instance, Twenge and colleagues (2007) demonstrated that asking participants to recall stories about family members, friends, or even famous celebrities reduced aggressive tendencies after social exclusion. They found similar effects when participants engaged in a positive social interaction with the experimenter. As a predominantly positive and social emotion, nostalgia may also function as a way of reducing the impact of aversive social stimuli (Wildschut et. al, 2006). Empathic concern is of particular interest, because it relies on emotion and social connectedness. As DeWall and Baumeister (2006) demonstrate, exclusion reduces our capacity to feel pain for ourselves as well as for others. Nostalgia may be a way to restore this feeling. Prior research has shown links between rejection and empathy, between nostalgia and empathy, and between rejection and nostalgia.

Empathy

Batson, Fultz, and Schoenrade (1987) define the construct of empathy as “a motivation oriented towards the other”. Through empathy, one can view the world from

the perspective of another, and can share their emotions. Batson and colleagues (1987) make an important distinction between empathy and “personal distress”. Originally, the chief distinction between these was believed to be in the motivations behind them (McDougall, 1908). Empathy is motivated primarily by an altruistic desire to reduce the distress of others, which often leads to helping behavior. Personal distress, on the other hand, is motivated primarily by an egoistic desire to reduce one’s own level of distress. Therefore, while helping behavior may be an antecedent of personal distress, it may also lead to other actions such as distancing oneself from people in pain. Although the distinction was initially made as a non-empirical observation, later researchers supported the idea through a series of empirical studies. This series of studies suggests that empathy and personal distress make up distinct components of an overall emotional experience to the pain of someone else (Batson, Cowles, & Coke, 1979, Batson et al., 1983, Coke, 1980, Coke et al , 1978, Toi & Batson, 1982; Fultz, Schaller, & Cialdini, 1988).

Previous research had found that in order for us to feel empathy for a person, we need to feel that they are actually in need, and how well we can imagine ourselves in their situation. Batson and colleagues (2007) note another important antecedent of empathy is how much we value the welfare of a person in need. An experiment had found that participants felt less empathy in a situation where they were asked to adopt the perspective of a convicted killer. Participants still felt more sympathy for him when they were asked to imagine his perspective than when they were not, but they felt far less empathy for him than for a generic stranger in need (Batson, Polycarpou et. al., 1997; Batson 1991). Additional research also found that it is possible to feel empathy for

someone without actively adopting their perspective, and a series of experiments showed that perspective-taking instructions increased participants' value of a stranger's welfare in addition to their overall empathy (Batson, Turk, Shaw, and Klein, 1995; Batson et al., 2007).

Recently, research on empathy distinguishes between affective and cognitive components of empathy. Empathic concern is the more affective component, and assesses one's tendency to experience feelings of sympathy and compassion for others in need (Davis, 1980, 1983). On the other hand, perspective taking is typically defined as the degree to which an individual can take the point of view of others. In other words, perspective taking refers to one's ability to "put themselves in someone else's shoes". While the empathic experience as a whole can be quite complex, I focus on the affective component of empathic concern for this line of research. The effects of social exclusion on the emotional aspect of empathy have already been established in previous experiments. For instance, DeWall and Baumeister (2006) argue that much like the way social exclusion reduces our capacity to perceive our own physical and emotional pain, it also reduces our capacity to feel for others.

Rejection and Empathy

A basic tenet of human nature is our tendency to be social. Humans have an essential need for positive social interaction, as well as a need to feel as if they belong (Kurzban & Leary, 2001; Gardner, Pickett, & Brewer, 2000). According to the research so far, a failure to meet these essential human needs results in a number of problems with adjustment, health, and general well-being (Baumeister & Leary, 1995). Studies have been conducted to find the negative results of social exclusion, and the evidence points in

virtually every direction. Children who are socially excluded from a young age show adjustment problems later in life, as well as higher rates of school drop-out, substance abuse, and criminal behaviors (Buhs, Ladd, & Herald, 2006; Parker & Asher, 1987; Prinstein & La Greca, 2004). Research has also found higher levels of aggression in children and adults who are socially excluded, and that the displays of aggression in socially excluded individuals are often misdirected (Twenge, Baumeister, Tice, and Stucke, 2001). Experiments have shown that participants who are given a forecast of social exclusion are more likely to engage in self-defeating behaviors, and score significantly lower on intelligent tests (Baumeister, Twenge, & Nuss, 2002, Baumeister, 1997; Twenge, Catanese, & Baumeister, 2002). Researchers have even demonstrated that socially excluded people demonstrate lower sensitivities to physical and emotional pain, as well as lower empathy for the pain of others (DeWall and Baumeister, 2006).

Many researchers argue that the reason social exclusion causes such an array of seemingly unrelated negative effects is through a state of cognitive deconstruction. Cognitive deconstruction is defined as a psychologically aversive state consisting primarily of a shift towards less meaningful, less integrative forms of thought (Baumeister, 1990). Psychologists have recently theorized that socially excluded individuals enter a state of cognitive deconstruction as a defensive state against the negative social stimuli which surround them. This state is characterized by a lack of meaningful thoughts, self-awareness, and emotions. At the same time, people who are in a state of cognitive deconstruction suffer from a sense of lethargy as well as a distorted perception of time (Twenge, Catanese, & Baumeister, 2003). Baumeister (1990) noted that the state stems from our own personal failures, as a way of disconnecting ourselves

from our own negative self-awareness. It is this state of cognitive deconstruction that is the direct cause of the various negative results of social exclusion that researchers have found.

In one recent paper, DeWall and Baumeister (2006) studied the effects of social exclusion and emotional numbness in a variety of circumstances. In a series of experiments, they demonstrated that people exhibit general numbness after receiving a future alone manipulation. They accomplished this by asking participants to fill out the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975). Afterwards, they were provided with accurate extraversion feedback, along with randomly assigned high or low belongingness feedback. Participants were told that their projected level of belongingness was based on their level of extraversion, and were given rationalizations for why this was the case. For instance, participants in the high belongingness condition who scored low on extraversion were told that introverts have an easier time maintaining their current relationships. To lend additional credence to the feedback, the experiments told participants that the relationship between extraversion and projected future belongingness had been established in previous studies. In a series of studies, DeWall and Baumeister (2006) noted that numbness was a consistent result of social exclusion. This extended even to physical numbness, suggesting that individuals process physical and emotional pain in the same way. For instance, individuals who received low belongingness feedback showed higher levels of tolerance to pain than those who received high belongingness feedback. Pain tolerance was assessed with a pressure algometer, which was applied to the hand. Participants were instructed to say “now” when they first felt pain due to the pressure increase, and to say “stop” when the pain

became too uncomfortable to continue. As expected, participants who received low belongingness feedback tolerated far greater amounts of pressure than those in the high belongingness feedback condition. DeWall and Baumeister also found a similar effect when participants were asked to project future emotions. In one study, participants reported that they would feel less happy about their university football team winning a major game in the future if they were given low belongingness feedback. This effect was also consistent with physical pain tolerance. Individuals who reported less extreme emotional reactions in the future were also less sensitive to physical pain.

Afterwards, DeWall and Baumeister tested the link between social exclusion and other people's pain. In one particular study, they tested the link between social exclusion and empathy with an experiment utilizing a personality test and empathy measures. Participants were first given a future alone or future belonging manipulation (as described above). Afterwards, participants were asked to read an essay, ostensibly written by another participant, describing a physically painful ordeal adapted from Batson and colleagues (1995). Finally, participants were asked to report how *sympathetic*, *warm*, *compassionate*, *soft-hearted*, and *tender* they felt towards the person who wrote the essay. These adjectives have been used in previous research to measure empathy (Batson, 1987, 1991; Batson et al., 1995). The internal reliability for the empathy related adjectives was good (Cronbach's $\alpha = .92$), and therefore an empathy index was created by summing responses to the five empathy adjectives (sympathetic, warm, compassionate, softhearted, and tender).

DeWall and Baumeister (2006) found that participants in the low belongingness feedback reported significantly lower levels of empathy for their peers than those in the

high belongingness feedback condition. In order to make sure that the results were specific to social exclusion, DeWall and Baumeister (2006) also incorporated a control condition in which participants were given no future feedback, and found that participants in the low belongingness feedback condition reported significantly lower empathy scores than those in the control condition. However, there was no difference between the control condition and high belongingness feedback condition, implying that while rejection can decrease our empathy for others, reassurance of social acceptance does nothing to increase it.

Additional research has backed up these findings. For example, Twenge and colleagues (2007) found that social exclusion led to decreased prosocial behaviors in a variety of scenarios, and that the relationship was mediated by empathy. This result is also consistent with the idea of cognitive deconstruction as a defense mechanism against negative social stimuli. Empathy is an important mediator of helping and prosocial behavior (Batson, 1991). But empathy relies on emotion: The empathic person must be able to internally simulate the feelings of someone else. If the rejected person's emotion system shuts down, as a temporary coping mechanism, then he or she would be less able to share another's feelings, and that lack of empathy could well translate into a reduction in prosocial behavior (Twenge et al, 2007).

Recently, the idea that social exclusion leads to cognitive deconstruction and emotional numbness has been questioned. Most notably, the theory came under fire in a meta-analysis by Gerber and Wheeler (2009). Analyzing 88 individual studies, Gerber and Wheeler presented evidence that rejection does lead to a frustration of basic psychological needs, but does not lead to numbness. They argued that rejection led to

reduced self-esteem, as well as efforts by excluded individuals to regain control. At the same time, they found no evidence of decreased arousal or flattened affect. They concluded that reactions to social exclusion may be prosocial or antisocial depending on the availability of control restoring mechanisms. Measures that contrasted belongingness and control resulted in antisocial responses, whereas measures that allowed for restored control led to prosocial responses.

Consistent with Gerber and Wheeler, other researchers have found evidence that rejection increases arousal, rather than leading directly to numbness (Blackhart, Eckel, & Tice, 2007; Gyurak & Ayduk, 2007). In a more recent multimodal analysis, Davis and Murray (2010) reported that individuals respond to social exclusion with increased negative affect. This was assessed with a facial electromyography machine (Larsen, Norris, & Cacioppo, 2003) and the Facial Action Coding System (Ekman & Friesen, 1978).

These recent studies oppose the hypothesis that individuals respond to social exclusion with emotional numbness. That being said, it is impossible to ignore the wealth of evidence supporting the hypothesis. Baumeister and colleagues (2009) recently issued a rebuttal to Gerber and Wheeler's (2009) meta-analysis. They argue that the meta-analysis is hampered by key omissions. They also state that initial distress reactions to exclusion should not stifle research on a heavily supported second pattern of response. Obviously, further enquiry is required to fully understand individual reactions to social exclusion. However, conflicting theories with compelling evidence suggest that reactions to social exclusion are more complex and nuanced than researchers initially believed. It may be possible that people show a two stage response to social exclusion. The first

stage would be characterized by a negative affective response and the second stage by emotional numbness.

Despite the ongoing conflict in regards to why social exclusion reduces empathy, preliminary evidence suggests that this relationship does exist. Supporters of cognitive deconstruction argue that emotional numbness makes an emotionally-reliant empathic response to pain impossible (Batson, 1991; DeWall & Baumeister, 2006; Twenge et. al, 2007). If emotional numbness is not responsible for this reaction, reduced empathy may be an indirect result of negative affect caused by social exclusion. Regardless of the mechanisms behind them, maladaptive responses to social exclusion are well documented (Baumeister, Twenge, & Nuss, 2002, Baumeister, 1997; Twenge, Catanese, & Baumeister, 2002; 2003). Among these is a reduction in empathy and prosocial behavior (DeWall & Baumeister, 2006; Twenge et. al, 2007).

Nostalgia and Empathy

Previous research indicates a link between nostalgia and empathy exists as well. As a social emotion, nostalgia heightens our sense of interpersonal bonding and social connectedness with others. Researchers have demonstrated that nostalgia has a positive impact on perceived social support.

In the context of psychology, theorists view empathy as feelings of genuine sympathy and caring for others. A main component of empathy is the ability to share vicariously the experiences of one who is suffering. In other words, empathy involves putting yourself in someone else's shoes. Numerous researchers have demonstrated that empathy increases general prosocial behavior in a variety of circumstances (Batson, 1998; Hoffman, 2000). In general, one's sense of empathy is influenced by several

factors, including similarity to the sufferer and level of control in the situation.

Importantly, researchers have found evidence that a sense of secure attachment facilitates empathic responses to the needs of others (Mikulincer et al., 2001). This suggests a possible link between one's sense of social belongingness and empathy. If security-enhancing stimuli increase one's likelihood to feel empathy, then perhaps other social reaffirming stimuli will have similar effects.

One of the main functions of nostalgia is to bolster our social bonds. Previous research indicates that all human beings have a fundamental need to belong and have positive social interactions (Baumeister & Leary, 1995; Kurzban & Leary, 2001; Gardner, Pickett, & Brewer, 2000). Empirical evidence indicates that when participants are asked to recall a nostalgic experience, they report significantly higher levels of social bonding than those who are asked to recall an ordinary experience (Wildschut et al., 2006). In addition to this, research has also established strong social bonds as an important antecedent towards feeling empathy for our peers (Batson, 1991; Batson et al., 2007; Cohen, 2004; Lent, 2004).

Researchers have shown that our willingness to help others is at least partially dictated by a sense social connectedness, specifically by reminders of security-enhancing attachment figures. In one experiment, Mikulincer et al. (2005) briefly exposed participants to names of people they had previously listed as security-enhancing attachment figures, or names of non attachment figures. Afterwards, participants were asked to watch a video of a confederate performing a series of aversive tasks, and becoming increasingly distressed over the course of the video. After a short break, participants were asked to rate their willingness to switch places with the confederate and

perform the aversive tasks in their stead. Participants who were prompted with the name of an attachment figure reported significantly higher willingness to switch places than those who were exposed to a non attachment figure's name.

In a follow up, Mikulincer et al. (2005) found that when participants were directly asked to think about and visualize an important security-enhancing figure or a mere acquaintance, the results were consistent. Participants asked to think about the security-enhancing figure were once again more likely to help the confederate. Nostalgic experiences often revolve around important attachment figures such as family members and close friends. As a result, nostalgia has been shown reduce attachment anxiety and attachment avoidance as well as increase our sense of being protected and loved. Additionally, nostalgia has been shown to increase feelings of social competency and ability to provide emotional support to others (Wildschut et al., 2009). It would follow, then, that if thinking about an important attachment figure increases ones likelihood of helping someone, reliving a nostalgic experience involving close others would have the same effect.

Rejection and Nostalgia

Previous research also provides suggestive evidence of a relationship between rejection and nostalgia. Specifically, research has found that nostalgia is triggered by loneliness (Wildschut et al., 2006; Zhou et al., 2008). Loneliness is a complex emotion marked by negative feelings and cognitions, including unhappiness, pessimism, self-blame, and depression (Cacioppo & Hawkley, 2005). Loneliness is also characterized by perceived lack of social support (Cacioppo et al., 2006) and by having fewer and less satisfying relationships than desired (Archibald, Bartholomew, & Marx, 1995). On the

other hand, nostalgia is a predominantly positive, self-relevant, and social emotion.

While a number of strategies can be employed to combat loneliness, one possibility is to strengthen our subjective perceptions of social connectedness and support through nostalgic memories. By rekindling meaningful relationships, nostalgia bolsters social bonds and renders accessible positive relational knowledge structures (Baldwin, Keelan, Fehr, Enns, & Koh-Rangarajoo, 1996). Important figures from one's past are brought to life and become part of one's present (Davis, 1979).

Although research in the area is in its infancy, there is already compelling empirical evidence that lonely individuals seek refuge in nostalgic reverie. Preliminary results indicating a link between loneliness and nostalgia came from a study in which British undergraduate participants were asked simply to write about the circumstances under which they become nostalgic (Wildschut et al., 2006, Study 2). Analysis of these narrative descriptions revealed that negative affect was the most frequently mentioned trigger of nostalgia (e.g., "Generally I think about nostalgic experiences when things are not going very well—lonely or depressed."). Specifically, 38% of participants listed negative affect as a trigger of nostalgia. The next most frequent trigger (24%) was social interaction (e.g., "Meeting up with people who were there and discussing what happened and laughing/crying about it."). As negative affect was the most common antecedent to nostalgia, Wildschut et al. examined more closely the descriptions coded into this category. They made a distinction between discrete negative affective states (e.g., lonely, scared) and generalized affective states often referred to as negative mood (e.g., sad, depressed). They found that 58% of their participants referred to discrete negative

affective states, and of those, 59% referred to loneliness specifically, making it the most commonly mentioned discrete affective state.

In a follow up study, Wildschut et al. (2006, Study 4) investigated the causal impact of loneliness on nostalgia. Loneliness was experimentally manipulated by having participants complete a modified version of the UCLA loneliness scale (Russell, 1996). In the high loneliness condition, the items were prefaced with “I sometimes”, in order to elicit agreement (e.g., “I sometimes feel isolated from others.”). In the low loneliness condition, the items were prefaced with “I always”, in order to elicit disagreement (e.g., “I always feel isolated from others.”). Afterwards, participants in the high loneliness condition were told that they scored in the 62nd percentile and were “above average on loneliness” while those in the low loneliness condition were told that they scored in the 12th percentile and were “very low on loneliness”. Participants were then asked to complete a manipulation check, as well as Batcho’s (1995) nostalgia inventory in which they were asked to rate how much they miss various aspects of their past. The results revealed that participants in the high loneliness condition reported feeling lonelier, and also reported higher levels of nostalgia on the nostalgia inventory.

Other research exploring the impact of social rejection is consistent with these findings. For instance, Knowles and Gardner (2008) found that social rejection led to heightened activation of group constructs, social identities, and idiosyncratic group memberships. Additionally, socially rejected participants judged their own groups as more meaningful and cohesive than other groups. Nostalgia may be one of the mechanisms behind this result, as loneliness is a prominent trigger for nostalgia, and one

of the functions of nostalgia is to foster stronger social bonds and affiliation with existing social groups (Wildschut et al., 2006; Zhou et al., 2008).

Naturally, individuals strive to maintain their sense of social connectedness. When faced with social deficiencies, individuals turn towards a range of compensatory mechanisms (Williams, Forgas, & von Hippel, 2005). Gardner, Pickett, and Knowles (2005) made a distinction between direct and indirect compensatory mechanisms or strategies. Direct strategies are employed when appropriate interaction partners are accessible, and are utilized to form or repair relationships with those individuals. For example, excluded participants put forth more effort on an ensuing collection task (Williams & Sommer, 1997). Indirect strategies are employed when potential interaction partners are unavailable, and count on mental representations of social bonds as a source of social connectedness. For example, participants who write about a rejection (compared with an acceptance) show increased accessibility of their group memberships, as assessed by word completion and lexical decision tasks (Knowles & Gardner, 2008).

A recent meta-analysis by Blackhart, Nelson, Knowles, and Baumeister (2009) explored reactions to social exclusion stimuli across 192 studies. They found that socially excluded participants across all studies reported significantly higher negative affect, compared to all other conditions. Socially excluded participants reported feeling significantly worse even when they were compared with groups that were experiencing negative, but non-social outcomes. Socially excluded participants did not report significantly lower levels of self-esteem than those in control groups, although accepted participants did report higher self-esteem. One possibility for this unexpected result is that participants naturally turn towards nostalgia to compensate for the negative social

stimulus of exclusion. Previous research indicates that nostalgia is triggered primarily by negative affect, and that recalling a nostalgic experience increases one's self-esteem (Wildschut et. al, 2006). As discussed previously, later studies also found that individuals who are low in attachment avoidance report significantly higher levels of nostalgia following negative social feedback, and appear to derive more benefit from nostalgia than those high in attachment avoidance (Wildschut et. al, 2010).

These studies suggest that nostalgia is a common and seemingly beneficial coping strategy for loneliness and negative social stimuli. Although these benefits appear more immediately apparent for low-avoidance individuals, the potentially far reaching benefits of nostalgia should not be ignored. Many other studies have shown that loneliness is capable of increasing nostalgia in general, and self reports verify that loneliness is the most common discrete emotional state to trigger nostalgia (Wildschut et al., 2006; Zhou et al., 2008). Based on these studies, it appears that the existing literature forms a promising foundation for a relationship between loneliness and nostalgia, as well the role of nostalgia in coping with negative social stimuli.

The Present Studies

Based on the empirical research so far, there is evidence of a negative link between rejection and empathy, a positive link between rejection and nostalgia, and a positive link between nostalgia and empathy. Thus, the purpose of the current studies is to investigate the possibility that individuals might turn towards nostalgia to reduce the negative effects of social exclusion on empathy.

Individuals typically seem to turn towards a non adaptive strategy of cognitive deconstruction and emotional numbness when faced with social exclusion (DeWall &

Baumeister, 2006). This maladaptive strategy can be quite problematic for socially excluded individuals, as it leads to many negative consequences. I propose that nostalgia may function as a more adaptive coping strategy, and might allow individuals to recover from the strain of exclusion without additional negative repercussions. While I will not test for effects of cognitive deconstruction directly, I will demonstrate that nostalgia may prevent social exclusion from reducing empathy. In order to accomplish this, I will first demonstrate that nostalgia increases empathy. I will then show that social exclusion increases nostalgia. This step is important, because it shows that individuals can utilize nostalgia to cope with exclusion, instead of reverting to a maladaptive state of cognitive deconstruction. Finally, I will design an experiment that exposes individuals to both social exclusion and nostalgia manipulations. This will demonstrate that individuals who recall nostalgia after social exclusion exhibit less extreme drops in empathy, which suggests that recalling a nostalgic experience prevents cognitive deconstruction. Studies 1 and 2 tested the hypothesis that nostalgia increases empathy by examining the effects of nostalgia on empathy in several different scenarios. Previous research indicates that loneliness and negative social stimuli are prominent triggers of nostalgia (Wildschut et al., 2006; Wildschut et al., 2010; Zhou et al., 2008). If nostalgia is a source of perceived social connectedness, it would follow that threats to one's social network will increase nostalgia as a compensatory mechanism. I tested this hypothesis in Studies 3 and 4. Finally, in Study 5, I sought to elaborate this analysis by further examining if nostalgia can directly counteract social threats. To the sense that individuals require a sense of social connectedness in life, it would follow that they should respond defensively to stimuli that threaten social connectedness (Baumeister & Leary, 1995; Gardner, Pickett,

& Brewer, 2000; Knowles and Gardner, 2008; Kurzban & Leary, 2001; Wildschut et. al, 2006).

Chapter 2: The Effect of Nostalgia on Empathy (Study 1)

As reviewed in Chapter 1, there is preliminary evidence suggesting that a relationship between nostalgia and empathy may exist (Mikulincer et. al, 2001; 2005). Previous research sets a promising precedent for the relationship between nostalgia and empathy.

The purpose of the current study is to build upon the existing preliminary evidence that nostalgia increases empathy. Nostalgia has already been shown to increase helping behaviors. Studies have shown that empathy leads to altruistic helping behavior (Batson and Coke, 1981; Batson, Fultz, and Schoenrade 1987; Batson et al. 1983; Coke, Batson, and McDavis, 1978). It is possible that the reason nostalgia increases helping behavior is that nostalgic memories increase social connectedness through reminders of positive relationships with close others, which leads to a stronger tendency to be empathic towards others (Mikulincer et al., 2001; Mikulincer et al., 2005; Sedikides, Wildschut, & Baden, 2004; Wildschut et al., 2006). Therefore, I intend to examine the relationship between nostalgia and empathy through a validated nostalgia manipulation as well as an established measure of empathy. For this study, I will ask participants to read a narrative describing a physically painful experience. This narrative is adapted from previous experiments, and has been used to successfully assess empathy in the past (DeWall and Baumeister, 2006; Twenge et al., 2001). I predict that individuals who are asked to recall a nostalgic experience beforehand will report significantly higher levels of empathy than those who are not.

Method

Participants. Participants were 31 (22 females, 9 males) undergraduate students currently enrolled at the University of Southampton. Participants ranged in age from 16 to 42 ($M = 18.55$, $SD = 5.2$). They received course credit in exchange for their participation.

Procedure and Materials. I administered materials in sessions ranging in size from 1 to 8 participants. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. Participants were told that the purpose of the experiment was to study how individual differences affect memories. First, I gave participants a randomly assigned nostalgia or ordinary manipulation. Participants in the nostalgia condition were instructed to recall a nostalgic event from their past and to list 4 keywords that captured the essence of this nostalgic experience. Participants in the ordinary control condition were instructed to recall an ordinary event from their past and, like participants in the nostalgia condition, to list 4 keywords that captured the essence of this ordinary experience. This manipulation has been used successfully in previous research (Routledge et al., 2008; Wildschut et. al, 2006).

Next, I gave participants a handwritten essay ostensibly written by another student describing a physically painful experience (DeWall & Baumeister, 2006). Participants were led to believe that the essay was written by another student who was participating in the same experiment, and was asked to recall a recent important event. The essay read as follows.

Two weeks ago I broke my leg playing volleyball in the Jubilee Sports Centre.

I've been playing on the Uni team for the last two years and I'm upset that my

season has been cut short. I'm experiencing pain because of my injury. I'm also having a tough time getting around on campus, as there are lots of hills and stairs that make it hard to use my crutches on. The parking people won't let me get a handicapped permit because they say my injury is only temporary. I've been really sad. I can't stop thinking about it.

After reading this essay, each participant was given a brief questionnaire asking them to describe how *sympathetic*, *warm*, *compassionate*, and *tender* they felt for the person that wrote the essay (Batson et al., 1995) (See Appendix F). I excluded the item “*softhearted*” from the original scale because of reliability concerns.¹ I also excluded the item “*moved*” because the design was adapted from DeWall and Baumeister (2006) who excluded the item because of poor reliability. Participants rated each of these on a 6-point scale. Ratings for each category were averaged to create an overall empathy score. Scale reliability for these items was high (Cronbach's alpha = .88). Afterwards, participants were fully debriefed and thanked for their time. The debriefing revealed that the handwritten essay was written by confederates as part of the experiment, and that the true purpose of the study was to determine whether recollection of a nostalgic event would increase empathic concern for others.

Results and Discussion

I ran an ANOVA with nostalgia as the independent variable and empathy score as the dependent variable. Participants in the nostalgia condition reported significantly

¹ I excluded the descriptive word “softhearted” because it is not a common word among English undergraduates, and they are unfamiliar with it. Preliminary analysis found that the item was fairly unreliable. Cronbach's alpha tests of pilot samples revealed that inclusion of the item significantly reduced the overall reliability of the scale. Therefore, it was eliminated from future analyses.

higher levels of empathy ($M = 4.08$, $SD = .71$) than those in the control ($M = 3.57$, $SD = .96$) condition, $F(1, 27) = 5.85$, $p < .05$.

These findings provide encouraging support for the hypothesis that immersing oneself in a nostalgic experience increases the level of empathy one feels for others. These results are consistent with the idea that nostalgia makes it easier for one to empathize with even an unknown other.

One major limitation of this study is that it analyzes the effect of nostalgia on empathy only for a particular scenario. The scenario we used is well established, and has been validated in other experiments examining empathy (Batson et al., 1995; DeWall and Baumeister, 2006). Nonetheless, it has not been used in nostalgia experiments before, so it is entirely possible that the effect of nostalgia on empathy might be limited by the type of scenario. For instance, individuals exposed to nostalgia may feel more empathy for others who are going through a physically painful experience than those who are going through an emotionally painful one. I addressed this issue in Study 2, which evaluated the effect of nostalgia on empathy across a number of different scenarios. Another limitation of this study was the relatively small number of participants. We also addressed this limitation in the Study 2, by collecting data at a local college with a large potential participant pool.

Chapter 3: The Effect of Nostalgia on Empathy Across Scenarios (Study 2)

Study 1 found preliminary links between nostalgia and empathy. However, due to a relative dearth of research in the area, the exact nature of the relationship is still undetermined. Does nostalgia have a more significant effect on some scenarios than others? Or does nostalgia positively affect empathy regardless of the situation? Based on the established research on nostalgia so far, I posit that nostalgia generally increases empathic tendencies regardless of context. Nostalgic experiences typically involve close others, who are important attachment related figures. In turn, reminders of these attachment-related figures results in higher empathy in a variety of different situations (Mikulincer et. al, 2005; Wildschut et. al, 2006).

The purpose of the current study was to better understand the relationship between nostalgia and empathy. For this Study, I presented five different narratives to each participant. Two of these narratives were about physical and emotional pain and have been used to measure empathy in previous experiments (DeWall and Baumeister, 2006; Twenge et al., 2001). For the other narratives, I enlisted the help of postgraduate confederates. I gave each of these confederates a generic form with instructions asking them to recall an experience that was important to them. I then verbally gave them a general topic (e.g. “an embarrassing experience”) and asked them to imagine themselves in such a situation and write about it. Outside of being given general instructions for a topic in order to ensure a variety of different scenarios, confederates were able to write freely. The purpose of the different narratives was to help us gain an understanding of how nostalgia affects empathy in a variety of different scenarios, as well as whether these

results are effected by the nature of the scenario. Consistent with Study 1, I predicted that nostalgia would have a positive effect on empathy across all scenarios.

Method

Participants: Participants were 101 students from Peter Symonds College who participated during an experimenter visit to their school. Seventy-five were female, 25 were male, and one chose not to report gender. Participants ranged in age from 16 to 20 ($M = 17.35$, $SD = .70$).

Procedure and Materials: Participants were told that they would be completing a study on personality and memory. After obtaining informed consent, the participants were asked to fill out a number of questionnaires. Materials were presented in a single printed booklet. Participants in the nostalgia condition were instructed to recall a nostalgic event from their past and to list 4 keywords that captured the essence of this nostalgic experience. Participants in the control condition were instructed to recall an ordinary event from their past and, like participants in the nostalgia condition, to list 4 keywords that captured the essence of this ordinary experience. This manipulation has been used successfully in previous research (Routledge et al., 2008; Wildschut et. al, 2006; Appendix D).

Following the nostalgia manipulation, participants were given a series of handwritten essays, ostensibly written by other students. As in Study 1, participants were led to believe that these essays were written by other student who were participating in the same experiment, and were asked to recall a recent important event.

Each of these essays described a different type of painful scenario. The narratives described a bad experience with drugs, an embarrassing social incident, failing

an important exam, a break up with a significant other, and a painful physical experience. The break up and physical pain narratives were adapted from other studies (DeWall and Baumeister, 2006; Twenge et al., 2001), while the other narratives were written by confederates who were asked to describe a painful experience. The narratives were distributed in a Latin square so as to eliminate potential order effects. (See Appendix F) After reading each narrative, participants were asked to complete the empathy questionnaire from the previous experiment. After completing the empathy questionnaires for each narrative, participants filled out additional demographics information, were fully debriefed, and thanked for their time. The debriefing revealed that the handwritten essays were written by confederates as part of the experiment, and that the true purpose of the study was to determine whether recollection of a nostalgic event would increase empathic concern for others.

Results

Cronbach's alpha tests showed that the empathy scale was reliable for each of the 5 scenarios. Cronbach's alpha scores for the scenarios regarding drugs, embarrassment, a break up, exam failure, and physical pain were .91, .88, .89, .87, and .82, respectively. With the exception of the drugs scenario, reported levels of empathy for all scenarios were positively correlated with each other (see Table 1). All scenarios showed a descriptive pattern in the predicted direction: greater empathy in the nostalgia relative to the control condition (see figure 1). For the drugs scenario, empathic concern was significantly higher in the nostalgia condition ($M = 2.62$, $SD = 1.09$) than in the ordinary condition ($M = 2.18$, $SD = 1.01$), $F(1,100) = 4.30$, $p < .05$. In the break up scenario, the results approached significance. Reported levels of empathic concern were higher in the

nostalgia condition ($M = 4.54$, $SD = 0.94$) than in the ordinary condition ($M = 4.16$, $SD = 1.07$), $F(1,100) = 3.46$, $p = .06$. For the other 3 scenarios, the difference between conditions was non-significant. For the embarrassment scenario, participants reported slightly higher levels of empathic concern in the nostalgia condition ($M = 3.70$, $SD = 0.96$) than in the ordinary condition ($M = 3.35$, $SD = 1.28$), $F(1,100) = 2.36$, $p = .128$. The same was true for the exam failure scenario. Empathic concern was slightly higher in the nostalgia condition ($M = 4.05$, $SD = 1.05$) compared to the ordinary condition ($M = 3.87$, $SD = .94$), $F(1,100) = .799$, $p = .374$. Finally, the physical pain scenario showed a similar trend, with empathic concern slightly higher in the nostalgia condition ($M = 4.10$, $SD = .87$) than in the ordinary condition ($M = 3.93$, $SD = .81$), $F(1,100) = 1.02$, $p = .315$. A Nostalgia vs. Control x Scenario mixed ANOVA revealed a significant nostalgia main effect across scenarios, $F(1, 94) = 4.38$, $p < .05$. The analysis further revealed a significant effect of scenario, indicating some scenarios (e.g., romantic break-up) evoked more empathy than did others, $F(4, 376) = 99.82$, $p < .01$. Finally, Nostalgia x Scenario interaction was not significant, $F(4, 376) = 0.72$.

Discussion

The main finding of this study is that nostalgia increases empathy across all scenarios. This allows us to generalize the results of Study 1, in which nostalgia increased empathy for an author who was describing a physically painful experience. In this way, nostalgia and social rejection appear to exert opposing forces on the level of empathy that participants feel. DeWall and Baumeister (2006) found that rejection decreases empathy that participants feel for people in both a physically painful situation describing a broken leg, and an emotionally painful situation describing a break up with a

significant other. This study found that across a variety of scenarios, including adapted versions of the same scenarios (Twenge et al., 2001), nostalgia increased empathy.

There are a number of possible explanations for the differences between individual scenarios. The scenarios with the highest overall levels of empathy (break-up, exam failure, and broken leg) conveyed more serious consequences than the other two scenarios. Participants might have simply found these scenarios to be “more painful” and therefore more worthy of empathy. Another possible interpretation of these results is that the opposite case was true of the drugs scenario, which resulted in comparatively lower levels of empathy next to the other scenarios. For one, the drugs scenario described a temporary, albeit painful experience. The author specifically mentions that they felt fine the next day, and learned a valuable lesson from the ordeal. The embarrassment scenario (which scored second lowest on overall empathy) also shared this trait, with the author describing temporary discomfort but then going on to say that “...looking back, I can see the humor in it now.” The idea that participants would report lower levels of empathy with these authors is consistent with previous research, as the temporary nature of their pain does not convey a sense of being in need of assistance (Batson, 1987; Batson, 1991). Another unique element of the drugs scenario is that the author specifically chose to participate in recreational drug use, as opposed to the other scenarios, in which the painful situation is described as beyond the control of the author.

Combined with previous research (Mikulincer et. al, 2005; Wildschut et. al, 2006), Studies 1 and 2 establish that recalling a nostalgic experience is capable of increasing one’s sense of empathy for others. The eventual goal of this project is to show that individuals may be able to utilize nostalgia to maintain empathy following negative

social feedback. As such, the next step to explore is the effect of exclusion on nostalgia. This would establish that nostalgia may function as a defense mechanism against the deleterious effects of exclusion. If exclusion promotes nostalgia, and nostalgia promotes empathy, this would demonstrate that the process may not necessarily need to be induced experimentally.

Chapter 4: The Effect of Social Exclusion on Nostalgia (Study 3)

Previous empirical literature gives us impetus to study the effect of social exclusion on nostalgia. Psychologists have yet to directly examine this effect, but recent research does set a precedent with similar relationships. For instance, Wildschut and colleagues (2006) asked participants to report common triggers of nostalgia. These included anniversaries, positive affect, places, sensory inputs, tangibles, and social interactions. However, among all of the triggers reported, negative affect was the most common by a significant margin. Preceding research has revealed copious evidence that individuals respond to negative mood states with a wide array of mood-regulating strategies (Larsen & Prizmic, 2004). Nostalgia is a positive, highly social self-conscious emotion that is triggered primarily by negative affect. It follows that nostalgia may also function as a natural defense mechanism against aversive mood states.

I hypothesize that nostalgia functions as a coping strategy for deficiencies on social connectedness. When recalling nostalgic experiences, the self almost invariably figures as the protagonist in nostalgic memories and is nearly always surrounded by close others (Sedikides, Wildschut, & Baden, 2004; Wildschut et al., 2006). While a number of strategies can be employed to combat a lack of social connectedness, one possibility is to strengthen our subjective perceptions of social connectedness and support through nostalgic memories. The purpose of the current study will be to examine the increase in nostalgia when participants are exposed to social exclusion. Previous research establishes loneliness as a prominent trigger for nostalgia (Wildschut et al., 2006; Zhou et al., 2008). Additionally, the idea that nostalgia functions as a defense mechanism against aversive mood states is well established (Davis, 1979; Sedikides et al., 2004; Wildschut

et al., 2006; 2009; Zhou et al., 2008). Based on this evidence, I suggest that participants will respond to a strong social exclusion manipulation with increased nostalgia.

Method

Participants. Participants were 84 (77 females, 7 males) undergraduate students currently enrolled at the University of Southampton. Participants ranged in age from 18 to 33 ($M = 21.2$, $SD = 3.48$). They received course credit in exchange for their participation.

Procedure and Materials. Materials were administered in session sizes ranging from 1 to 8 participants. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. First, participants were briefed and given an opportunity to ask questions. Afterwards, each participant was asked to fill out the 90 item Eysenck Personality Questionnaire (See Appendix A) (Eysenck & Eysenck, 1975). Participants filled out all 90 items in order to prevent suspicion of the study's intentions. Next, participants were given accurate extraversion scores based on the extraversion subscale of the EPQ, as well as a randomly assigned future alone (versus future belonging) feedback ostensibly derived from their responses. Participants were told that this future alone or future belonging feedback was based on their level of extraversion (See Appendix B). Participants in the future alone condition were told that they were the type of person who winds up alone later in life. They may have friends and relationships now, but as they age, these relationships become increasingly distant and eventually fall apart. Conversely, participants in the future belonging condition were told that they were the type of person who has long lasting stable relationships throughout their lives. They were told that relationships would be

long and stable, and that they would likely have many people who care about them as they get older. As justification for this feedback, participants were told that individuals prefer to receive feedback after filling out lengthy personality questionnaires. This type of feedback has been used successfully in the past to induce feelings of social exclusion (Twenge, Baumeister, Tice, & Stucke, 2001, DeWall & Baumeister, 2006; Twenge, 2008; Wildschut et al., 2010). After this, participants were given a measure of nostalgia (Cronbach's $\alpha = .98$), (See Appendix C) (Wildschut et al., 2006). Finally, participants completed a brief questionnaire for demographic information. They were then fully debriefed, thanked for their time, and given course credit. At this point, participants were also assured that the feedback they received was randomly assigned, and extraversion scores were in no way indicative of an individual's future level of belongingness.

Results and Discussion

I conducted an ANOVA, which revealed significantly higher levels of nostalgia when participants were exposed to the future alone feedback ($M=4.84$, $SD=1.09$) compared to the future belonging feedback ($M=4.08$, $SD=1.60$), $F(1,82)= 6.20$, $p<.05$.

The results of this study demonstrate that social exclusion increases nostalgia. Individuals in the future alone condition reported significantly higher levels of nostalgia than those in the future belonging condition. This is consistent with the hypothesis that nostalgia functions as a defense mechanism for coping with social deficiencies. These findings provide additional support for the hypothesis that nostalgia functions as a defense mechanism against aversive social stimuli. Whether it is a reminder of loneliness or a more overt social exclusion manipulation, individuals naturally have a tendency to

turn towards nostalgia to compensate for this social deficiency. This carries a number of implications, the most important being that nostalgia may buffer against the deleterious effects of social exclusion. Researchers have shown that social exclusion leads to a number of maladaptive outcomes, including increased aggression, criminal activity, and self-defeating behaviors (Baumeister, 1997; Buhs, Ladd, & Herald, 2006; Parker & Asher, 1987; Prinstein & La Greca, 2004; Twenge, Baumeister, Tice, and Stucke, 2001; Twenge, Catanese, & Baumeister, 2002). I propose that nostalgia offers a more constructive defense against social exclusion.

For this study, I compared individuals in a high belongingness condition to individuals in a low belongingness condition. The results provided evidence that social exclusion increases nostalgia, but there is another possible interpretation. These results may be confounded by an effect of high belongingness. One might argue that high belongingness improves mood and perceived social support, therefore eliminating the need for compensatory mechanisms such as nostalgia. In other words, it could be that socially accepted individuals are less likely to turn towards nostalgia, rather than social exclusion leading towards increased nostalgia. Study 4 was designed to explore and address this potential complication.

Chapter 5: Corroborating the Relationship Between Exclusion and Nostalgia

(Study 4)

The results of Study 3 provide evidence that individuals turn towards nostalgia when faced with loneliness. However, the experimental design leaves room for alternative interpretations. Because loneliness is a primary trigger for nostalgia, bolstering one's sense of social belongingness may have the opposite effect. Individuals with a high sense of social belongingness would have less reason to wax nostalgic. The purpose of the current study is to confirm that these results actually stem from an increase in nostalgia due to social exclusion. By comparing a future alone condition with a control condition rather than a future belonging condition, I can rule out the possibility that the results of Study 3 were not due to the future belonging condition. I hypothesize that participants will react to future alone feedback with increased nostalgia, even when compared to a no feedback control condition.

Method

Participants. Participants were 30 (16 females, 14 males) undergraduate students currently enrolled at the University of Southampton. Participants ranged in age from 18 to 23 ($M = 20.33$, $SD = 1.18$). They received course credit in exchange for their participation.

Procedure and Materials. Materials were administered in session sizes ranging from 1 to 6 participants. Participants were seated at desks separated by partitions and completed the materials anonymously and at their own pace. Study 4 replicated the design of Study 3, with the sole difference being in the belongingness feedback. Participants were first asked to fill out the 90 item Eysenck Personality Questionnaire

(See Appendix A) (Eysenck & Eysenck, 1975). Afterwards, participants received accurate extraversion scores, along with randomly assigned future alone feedback or no feedback. Participants in the future alone condition were told that their level of belongingness was derived from their responses on the EPQ (Twenge, Baumeister, Tice, & Stucke, 2001, DeWall & Baumeister, 2006; Twenge, 2008; Wildschut et. al, 2010). Participants in the no-feedback control condition were only given accurate extraversion scores, with no implications of social belongingness attached. Then, participants completed a measure of nostalgia (Cronbach's $\alpha = .86$), (See Appendix C) (Sedikides et. al, 2004). Finally, participants filled out a brief questionnaire for demographic information. They were then fully debriefed, thanked for their time, and given course credit. As in Study 3, participants were assured that the feedback they received was randomly assigned, and extraversion scores were in no way indicative of an individual's future level of belongingness.

Results and Discussion

I conducted an ANOVA, and found that participants in the low belongingness condition ($M = 3.02$, $SD = 1.47$) reported significantly higher levels of nostalgia than those in the control condition ($M = 2.24$, $SD = 1.11$), $F(1, 26) = 5.28$, $p < .05$.

These results establish that social exclusion is associated with an increase of nostalgia, relative to both a future belonging condition (Study 3) and a no feedback control condition (The present study). Together, these results provide additional evidence for the hypothesis that individuals react to social exclusion with increased nostalgia.

By turning towards nostalgia when direct social repair mechanisms are unavailable, individuals can reduce the impact of negative social stimuli. This brings about an interesting question. To what extent can nostalgia negate the typical effects of social exclusion? If nostalgia can repair the reduction in social connectedness that typically stems from exclusion, then recalling nostalgic thoughts after social exclusion may prevent some of the deleterious effects of exclusion.

Chapter 6: Nostalgia Prevents a Reduction in Empathy Following Social Exclusion

Feedback (Study 5)

Previous studies in this line of research have uncovered two important relationships involving nostalgia. First, nostalgia increases empathy. Participants who were asked to recall a nostalgic experience reported significantly higher levels of empathy than those who were asked to recall an ordinary event. Second, social exclusion increases nostalgia.

The purpose of the current study is to investigate the possibility that nostalgia moderates the effect of social exclusion on empathy. Studies 1 and 2 found that when individuals waxed nostalgic, their level of empathy for others increased. Furthermore, Studies 3 and 4 found that when individuals were socially excluded (versus included), their level of nostalgia increased. These results suggest that individuals who are asked to recall a nostalgic experience in addition to being given future alone feedback will not react the same way as individuals who recall an ordinary experience. Specifically, I expect that individuals who are given future alone feedback without being asked to recall a nostalgic experience will show reduced empathic concern. This is consistent with previous research exploring the relationship between social exclusion and empathic concern (DeWall & Baumeister, 2006). At the same time, I expect that individuals who are asked to recall a nostalgic experience will not show the same reduction in empathic concern, because the positive effect of nostalgia on empathic concern compensates for the negative effect of exclusion on empathic concern.

Method

Participants. Participants were 76 (60 females, 16 males) University of Southampton undergraduate students. Participants ranged in age from 18 to 33 ($M = 21.3$, $SD = 3.64$). They received course credit in exchange for their participation.

Procedure and Materials. All materials for this study were administered electronically. Students completed the materials in sessions ranging in size from 1 to 6 students. After acquiring consent, I asked each participant to fill out the 90 item Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975). Afterwards, I gave participants a randomly assigned future alone or future belonging feedback ostensibly derived from their responses on the EPQ. I informed participants that the computer ran an analysis on their responses and presented them with a graph which indicated them as either significantly above or below the university average for their relationship success (See Appendix G). This procedure ensured consistent feedback for participants in the same condition, and eliminates possible effects of delivery from the experimenter or human error. Attached to this, participants received a brief description of the implications of this feedback. Participants were told that the feedback was part of the personality test, and the conclusion to “part 1” of the study. This type of feedback has been used successfully in the past to induce feelings of social exclusion (Twenge, Baumeister, Tice, & Stucke, 2001, DeWall & Baumeister, 2006; Twenge, 2008; Wildschut et. al, 2010). Afterwards, I gave participants either a nostalgic or ordinary control manipulation. I asked participants to write 4 keywords describing the event, as well as a freeform narrative describing the experience. Next, participants filled out a 3 item nostalgia check scale used in previous research to measure state nostalgia (Wildschut et. al, 2006). Upon completing the nostalgia manipulation and check, participants read a narrative ostensibly written by

another student describing a physically painful experience. This narrative was given to participants under the guise of being written by another student who participated in an earlier version of the same experiment. After reading this narrative, I asked them to report how *sympathetic*, *warm*, *compassionate*, and *tender* they felt for the person describing the experience. Participants were then asked to fill out basic demographic information, and were fully debriefed. As in the previous studies, participants were informed of the true nature of the study and given the opportunity to ask questions once again. I informed them that their personality feedback was randomly assigned and not the result of their answers on the EPQ. Additionally, I told participants that the essays they were asked to read were written by confederates.

Results

I conducted an ANOVA and found that individuals in the nostalgia condition ($M = 5.12$, $SD = .77$) reported significantly higher levels of nostalgia than those who were asked to recall an ordinary event ($M = 3.57$, $SD = 1.76$), $F(1, 74) = 24.01$, $p < .01$. I then conducted an ANOVA with the nostalgia manipulation, future belongingness manipulation, and gender as independent variables and reported empathy levels as the dependent variable. I did not find a significant main effect of the nostalgia manipulation, $F(1, 68) = 0.00$, $p = .99$. There was no significant effect of future belongingness on empathy, $F(1, 68) = .72$, $p = .40$. However, there was a significant effect of Nostalgia X future belongingness on reported empathy, $F(1, 68) = 4.42$, $p < .05$. Tests of simple main effects were non-significant. In the nostalgia condition, there was no significant difference in empathy scores between the future alone ($M = 4.32$, $SD = .84$) and future belonging ($M = 3.93$, $SD = 1.24$), $F(1, 34) = 1.65$, $p = .21$. The ordinary condition also

showed no significant difference in empathy scores between the future alone ($M = 3.86$, $SD = 1.16$) and future belonging ($M = 4.5$, $SD = .94$) conditions, $F(1, 37) = .33$, $p = .567$. In the future belonging condition, there was no significant difference in reported level of empathy between participants in the nostalgia condition ($M = 3.93$, $SD = 1.24$) and participants in the ordinary condition ($M = 4.5$, $SD = .94$), $F(1, 35) = 1.224$, $p = .276$. In the future alone condition, there was no significant difference in reported empathy between the nostalgia ($M = 4.32$, $SD = .84$) and ordinary ($M = 3.86$, $SD = 1.16$) conditions, $F(1, 36) = .50$, $p = .48$.

I partitioned the Nostalgia X Future belongingness effect by testing the effect of belongingness feedback separately in the nostalgia and ordinary control condition. In the ordinary condition, participants reported higher levels of empathy when given future belonging feedback ($M = 4.64$, $SD = .92$) than when given future alone feedback ($M = 3.69$, $SD = 1.10$), $F(1, 68) = 3.75$, $p = .057$. When participants were in the nostalgia condition, I did not find the same effect of belongingness feedback. There was no significant difference between individuals in future alone ($M = 3.96$, $SD = 1.21$) versus future belonging ($M = 4.37$, $SD = .82$) conditions, $F(1, 68) = 0.94$, $p = .33$.

Discussion

These results show that there was a reduction in empathic concern when individuals in the control condition were given a forecast of social exclusion. This finding is consistent with previous research demonstrating that social exclusion leads to an emotional numbness effect. Emotional numbness was not directly assessed, but the reduction in empathic concern for participants who do not recall a nostalgic event is consistent with the idea that social exclusion results in emotional numbness (DeWall &

Baumeister, 2006). However, the results suggest that nostalgia may prevent this effect.

For participants in the nostalgia condition, social exclusion did not reduce empathy.

DeWall and Baumeister (2006) have shown that individuals typically revert to an emotionally numb state of cognitive deconstruction after receiving negative social feedback. However, this experiment suggests that nostalgia may provide a more constructive coping mechanism. When participants recalled an ordinary event, the results I found were consistent with previous research on social exclusion and emotional numbness. However, when participants recalled a nostalgic event, the expected numbness effect was not present.

Chapter 7: Overall Implications and Directions for Future Research

Nostalgia and Empathy

An implication of Studies 1 and 2 is that nostalgic individuals are more likely to help others in general. The increased sense of empathy demonstrated in this experiment shows that individuals find it easier to relate with even strangers when recalling a nostalgic experience. This is very much in line with previous research by Mikulincer and colleagues (2001, 2005) regarding attachment and empathy. Mikulincer demonstrated that various reminders of secure attachment increase empathy as well as willingness to help others. Nostalgic experiences typically involve important attachment-related figures from one's past, so recollection of a nostalgic experience may in fact be an effective way of priming secure attachment. The results are consistent with this hypothesis, because recollection of a nostalgic experience led to an increase in empathy. This is similar to the effects found with more direct reminders of attachment security. These studies also pose questions regarding the deeper psychological ramifications of the nostalgic experience. As a relatively recent addition to social psychology research, many facets of nostalgia remain shrouded in mystery. In recent years, psychologists have uncovered a number of nostalgia's key functions, which include increased positive affect, increased self-esteem, a stronger sense of social connectedness, and bolstered defense against existential threat (Wildschut et. al, 2006). These functions are largely beneficial, and provide evidence that nostalgia is a valuable emotion to humans. However, these functions are by no means a comprehensive list of nostalgia's potential benefits. Despite recent strides in the area, we have yet to reach a fully comprehensive understanding of the nostalgic experience. Many potential relationships between nostalgia and other phenomena in

psychology lie completely unexplored, and up until very recently, the relationship between nostalgia and empathy was one of them. The findings of this study not only pave the way for future research, but demonstrate nostalgia's far reaching and still unexplored potential.

Social Exclusion and Nostalgia

Studies 1 and 2 clarified a relationship between nostalgia and empathy. The purpose of Studies 3 and 4 was to establish a relationship between social exclusion and nostalgia. As expected, the results were consistent with previous research in regards to nostalgia's unique triggers. Wildschut and colleagues (2006) originally demonstrated that nostalgia is triggered primarily through negative affect, and that loneliness is the most common discrete emotional state that triggers nostalgia. In several follow up studies, researchers have demonstrated that loneliness manipulations can lead to increased feelings of nostalgia (Wildschut et al., 2010; Zhou et al., 2008). Building on the existing literature, this study demonstrates that individuals turn towards nostalgia when faced with social exclusion. It is worthwhile to note that social exclusion increases nostalgia compared to both a high belongingness and no feedback condition. This suggests that while individuals may turn towards nostalgia in times of social deficiency, the opposite is not necessarily true for positive social feedback. Socially aversive stimuli increase one's likelihood of turning towards nostalgia as an indirect coping strategy for loneliness (Mikulincer et al., 2005). However, socially positive stimuli do not necessarily make an individual feel less nostalgic.

Relationship Between Social Exclusion, Nostalgia, and Empathy

Studies 1-4 help contribute to our understanding of nostalgia's triggers and functions by building on previous research and verifying these relationships. However, they also lead to an important question. Researchers have demonstrated that social exclusion leads to a reduction in empathy (DeWall & Baumeister, 2006). How does nostalgia play into this relationship? If social exclusion increases nostalgia, and nostalgia increases empathy, it would follow that nostalgia may reduce the impact of social exclusion on empathy. As expected, Study 5 showed that this was indeed the case. Individuals who were asked to recall a nostalgic experience after being given a forecast of social exclusion did not exhibit the expected effect of emotional numbness.

The mere presence of a distraction task (recalling and describing an ordinary event) was not enough to fully prevent emotional numbness. This offers some insight into individual reactions to social exclusion. Despite the debate surrounding the topic, this study confirms that individuals do react to social exclusion with a reduction in empathy in at least some circumstances. Furthermore, the fact that an ordinary condition distraction task did not eliminate this effect helps contribute to a more thorough understanding of social exclusion. One possible reason for the discrepancies in the findings of social exclusion studies relates to the difference between immediate and delayed reactions to social exclusion. A number of studies have found that individuals react to exclusion stimuli with emotional reactions (Gerber & Wheeler, 2009). This stands in contrast to the hypothesis that individuals revert to a state of cognitive deconstruction and emotional numbness. However, additional time elapsed might be responsible for this discrepancy. The fact that this study found an emotional numbness effect after a distraction task suggests this. Individuals may respond initially to social

exclusion with an emotional reaction, only to revert to a state of cognitive deconstruction once they have a chance to reflect on the feedback.

Of course, further research on the nature of social exclusion is needed in order to make an authoritative claim. That being said, this study provides suggestions for future research regarding reactions to social exclusion in general. One possibility is to expose participants to an exclusion or non exclusion condition, and measure levels of empathy at different time intervals. Another possibility might be to expose participants to different types of exclusion manipulations. Perhaps this would help to uncover the mechanisms behind some of the variance in social exclusion studies.

When individuals were asked to recall a nostalgic event, we did not see any significant difference between high and low rejection participants. This suggests that when individuals respond to rejection by recalling a nostalgic event, they can prevent the typical lapse into an emotionally numb state. Based on previous research, we know that lonely individuals often turn to nostalgia, and that reparation and maintenance of social support is an important function of nostalgia (Wildschut et. al, 2006). This study suggests that turning towards nostalgia is a potentially effective coping strategy when dealing with direct, negative social events such as rejection. This is also consistent with research by Mikulincer and colleagues (2005) suggesting that recall of important security-enhancing figures elicits empathic responses.

Social exclusion is typically associated with a myriad of negative outcomes, and entering a state of cognitive deconstruction is a maladaptive response. Cognitive deconstruction is associated with a lack of meaningful thoughts, emotions, distorted perception of time, and sense of lethargy (Twenge, Catanese, & Baumeister, 2002).

Nostalgia, on the other hand, is associated with increased positive affect, higher self esteem, and stronger perceptions of social support (Wildschut et. al, 2006). Because nostalgia is linked to other positive, adaptive functions, it would serve as an excellent alternative to cognitive deconstruction for socially excluded individuals.

Future Research

These findings bear many implications for future research. In regards to social exclusion, these results are consistent with previous research supporting emotional numbness. When individuals did not recall a nostalgic experience, the results were consistent with DeWall and Baumeister's (2006) study showing that social exclusion leads to an emotionally numb state, and this emotional numbness leads to reduced empathy. If social exclusion typically leads to an emotionally numb state, asking individuals to recall a nostalgic experience prevents this state. By recalling highly social experiences involving close others, one can restore social needs and prevent the less adaptive effects of cognitive deconstruction. However, further research is required to understand the nature of social exclusion, as well as the mechanisms through which nostalgia intervenes. It may be possible that social exclusion leads to a reduction in empathy through alternative means. The research opposing cognitive deconstruction suggests that individuals react to exclusion with strong emotions (Davis & Murray, 2010; Gerber & Wheeler, 2010). This stands opposed to the hypothesis that social exclusion leads to emotional numbness. Additional research on social exclusion can shed some light on this situation. Perhaps emotional reactions to social exclusion are dependent on the severity of the manipulation. Alternatively, the contrasting research philosophies on the topic suggest that the emotional reaction to exclusion is more cognitively complex

than researchers had previously thought. It may even be possible that the reduction in empathy typically associated with exclusion is not due to emotional numbness. There are still many unanswered questions in regards to the effects of social exclusion, and future research needs to analyze these effects.

Other important possibilities for future research concern the role of nostalgia. This study found that nostalgia can inoculate people against the typical negative effect of exclusion on empathy. Future studies should focus on the mechanisms through which this takes place. This may also help to clarify the effect of social exclusion on empathy when nostalgia is not directly manipulated. For instance, a future study might examine narratives for social keywords in both conditions. If individuals asked to recall a nostalgic event after a social exclusion manipulation report a higher number of social keywords than those who do not, this would suggest that the social nature of nostalgia nullifies social exclusion.

One potential limitation of this line of research is a lack of emotional response measures. The studies do demonstrate that recalling a nostalgic memory increases empathic concern for others, and that recalling a nostalgic experience reduces the negative effect of social exclusion on empathic concern. However, it is impossible to make direct inferences regarding the possibility that nostalgia prevents individuals from entering a state of cognitive deconstruction or emotional numbness. While the results do suggest that nostalgia reduces the impact of social exclusion on empathic concern, it is still unclear why this happens. One possibility is that individuals who do not keep a nostalgic event in mind enter a state of emotional numbness, while individuals who recall a nostalgic event do not. However, without measures of emotion, it is impossible to

make an authoritative statement. Therefore, future studies should assess the impact of social exclusion on positive and negative emotion in the presence and absence of nostalgia. This may allow for more concrete inferences as to why nostalgia can reduce the impact of social exclusion on empathic concern for others.

There is still debate regarding the nature of social exclusion. As such, it is difficult to make authoritative claims regarding the role of nostalgia in the relationship between exclusion and empathy. However, this study did provide evidence that nostalgia can reduce the negative impact of social exclusion on empathy. This provides encouraging support for the hypothesis that nostalgia helps individuals retain their sense of belongingness. It also lays important groundwork for future research. Additional studies will shed light on which functions of nostalgia have a greater impact on the relationship between exclusion and empathy. Ideally, future research will also clarify the intricacies of social exclusion and emotional numbness. With a more fine-grained understanding of the nature of social exclusion itself, the impact of nostalgia will become clearer. For the time being, this line of research provides encouraging evidence supporting the far reaching benefits of nostalgia.

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Table 1

Correlations between overall empathy ratings for each scenario (Study 2)

	Drugs	Embarrassment	Break Up	Exam Failure	Physical Pain
Drugs	1	.361**	.142	.171	.254*
Embarrassment		1	.446**	.581**	.445**
Break Up			1	.531**	.462**
Exam Failure				1	.556**
Physical Pain					1

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

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

Figure 1.

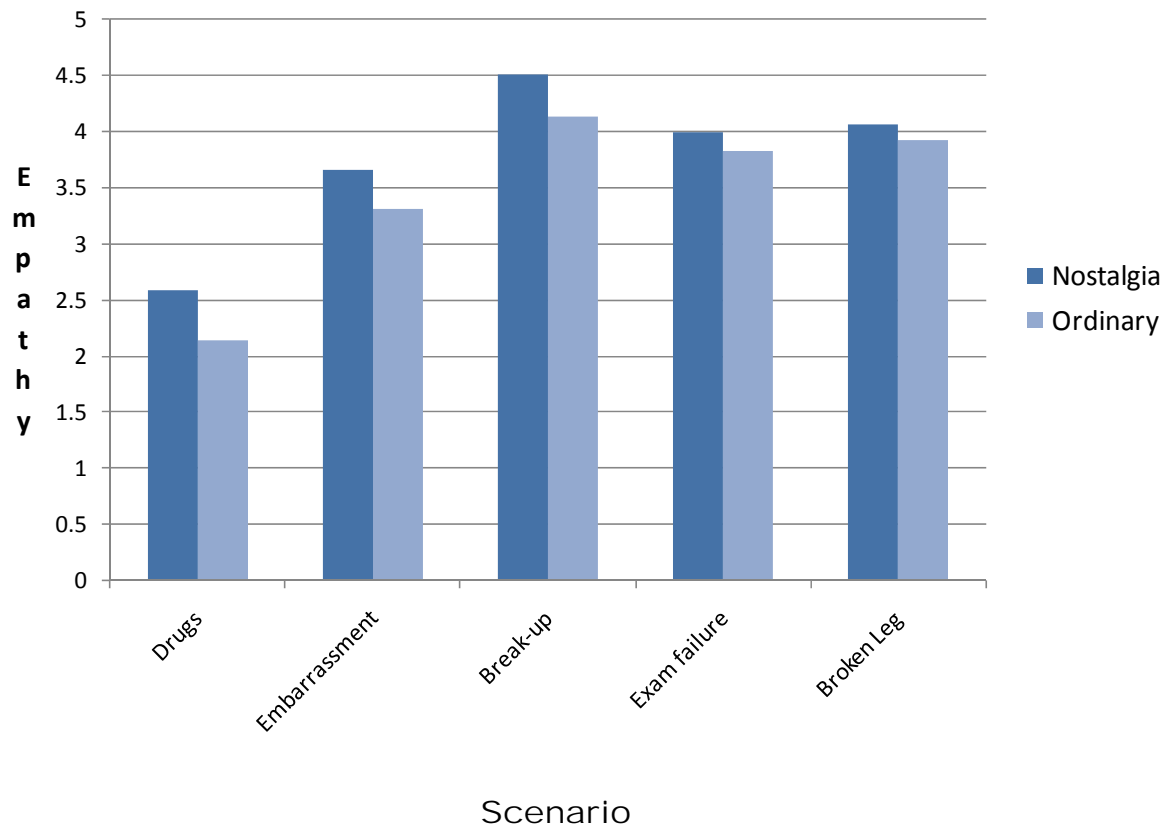


Figure 1. Mean empathy scores as a function of scenario and nostalgia manipulation.

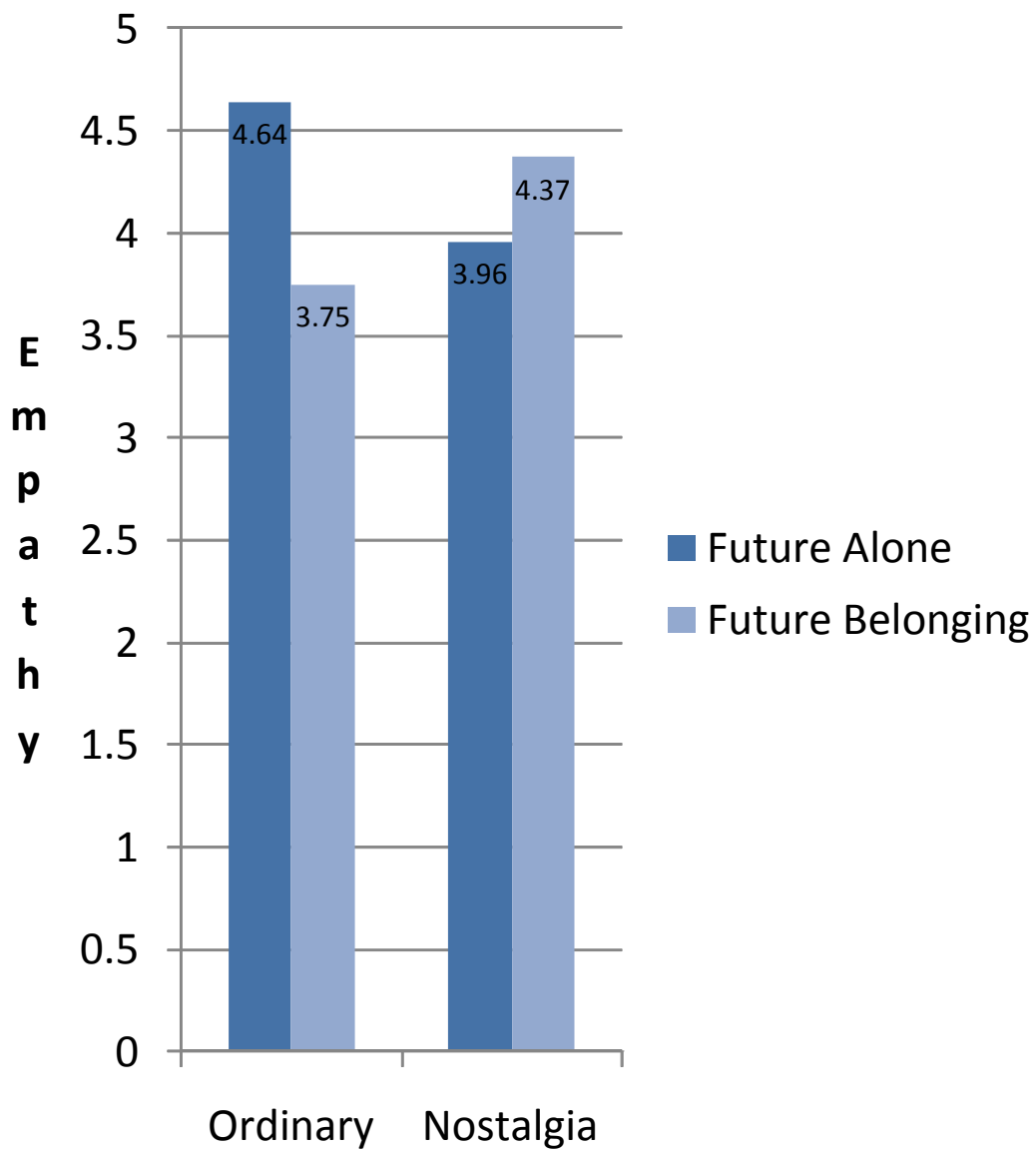
Figure 2.

Figure 2. Reported levels of empathy for future alone versus future belonging participants in nostalgia and ordinary conditions.

Appendix A

EYSENCK PERSONALITY QUESTIONNAIRE (EPQ)

FOR EVERY QUESTION, CIRCLE JUST ONE RESPONSE.

- | | | | |
|-----|----|-----|---|
| YES | NO | 1. | Do you have many different hobbies? |
| YES | NO | 2. | Do you stop to think things over before doing anything? |
| YES | NO | 3. | Does your mood often go up and down? |
| YES | NO | 4. | Have you ever taken the praise for something you knew someone else had really done? |
| YES | NO | 5. | Are you a talkative person? |
| YES | NO | 6. | Would being in debt worry you? |
| YES | NO | 7. | Do you feel "just miserable" for no reason? |
| YES | NO | 8. | Were you ever greedy by helping yourself to more than your share of anything? |
| YES | NO | 9. | Do you lock up your house carefully at night? |
| YES | NO | 10. | Are you rather lively? |
| YES | NO | 11. | Would it upset you a lot to see a child or animal suffer? |
| YES | NO | 12. | Do you often worry about things you should not have done or said? |
| YES | NO | 13. | If you say you will do something, do you always keep your promise no matter how inconvenient it might be? |
| YES | NO | 14. | Can you usually let yourself go and enjoy yourself at a lively party? |
| YES | NO | 15. | Are you an irritable person? |
| YES | NO | 16. | Have you ever blamed someone for doing something you knew was your fault? |
| YES | NO | 17. | Do you enjoy meeting new people? |
| YES | NO | 18. | Do you believe insurance plans are a good idea? |
| YES | NO | 19. | Are your feelings easily hurt? |
| YES | NO | 20. | Are <i>all</i> your habits good and desirable ones? |
| YES | NO | 21. | Do you tend to keep in the background on social occasions? |

- | | | | |
|-----|----|-----|--|
| YES | NO | 22. | Would you take drugs which may have strange and dangerous effects? |
| YES | NO | 23. | Do you often feel “fed-up?” |
| YES | NO | 24. | Have you ever taken anything (even a pin or a button) that belonged to someone else? |
| YES | NO | 25. | Do you like going out a lot? |
| YES | NO | 26. | Do you enjoy hurting people that you love? |
| YES | NO | 27. | Are you often troubled about feelings of guilt? |
| YES | NO | 28. | Do you sometimes talk about things you know nothing about? |
| YES | NO | 29. | Do you prefer reading to meeting people? |
| YES | NO | 30. | Do you have enemies who want to harm you? |
| YES | NO | 31. | Would you call yourself a nervous person? |
| YES | NO | 32. | Do you have many friends? |
| YES | NO | 33. | Do you enjoy practical jokes that can sometimes really hurt people? |
| YES | NO | 34. | Are you a worrier? |
| YES | NO | 35. | As a child did you do as you were told immediately and without grumbling? |
| YES | NO | 36. | Would you call yourself happy-go-lucky? |
| YES | NO | 37. | Do good manners and cleanliness matter much to you? |
| YES | NO | 38. | Do you worry about awful things that might happen? |
| YES | NO | 39. | Have you ever broken or lost something belonging to someone else? |
| YES | NO | 40. | Do you usually take the initiative in making new friends? |
| YES | NO | 41. | Would you call yourself tense or “highly-strung”? |
| YES | NO | 42. | Are you mostly quiet when you are with other people? |
| YES | NO | 43. | Do you think marriage is old-fashioned and should be done away with? |
| YES | NO | 44. | Do you sometimes boast a little? |
| YES | NO | 45. | Can you easily get some life into a rather dull party? |
| YES | NO | 46. | Do people who drive carefully annoy you? |

- | | | | |
|-----|----|-----|--|
| YES | NO | 47. | Do you worry about your health? |
| YES | NO | 48. | Have you ever said anything bad or nasty about anyone? |
| YES | NO | 49. | Do you like telling jokes and funny stories to your friends? |
| YES | NO | 50. | Do most things taste the same to you? |
| YES | NO | 51. | As a child did you ever talk back to your parents? |
| YES | NO | 52. | Do you like mixing with people? |
| YES | NO | 53. | Does it worry you if you know there are mistakes in your work? |
| YES | NO | 54. | Do you suffer from sleeplessness? |
| YES | NO | 55. | Do you always wash before a meal? |
| YES | NO | 56. | Do you nearly always have a "ready answer" when people talk to you? |
| YES | NO | 57. | Do you like to arrive at appointments in plenty of time? |
| YES | NO | 58. | Have you often felt listless and tired for no reason? |
| YES | NO | 59. | Have you ever cheated at a game? |
| YES | NO | 60. | Do you like doing things in which you have to act quickly? |
| YES | NO | 61. | Is (or was) your mother a good woman? |
| YES | NO | 62. | Do you ever feel life is very dull? |
| YES | NO | 63. | Have you ever taken advantage of anyone? |
| YES | NO | 64. | Do you often take on more activities than you have time for? |
| YES | NO | 65. | Are there several people who keep trying to avoid you? |
| YES | NO | 66. | Do you worry a lot about your looks? |
| YES | NO | 67. | Do you think people spend too much time safeguarding their future with savings and insurances? |
| YES | NO | 68. | Have you ever wished that you were dead? |
| YES | NO | 69. | Would you dodge paying your taxes if you were sure you could never be found out? |
| YES | NO | 70. | Can you get a party going? |
| YES | NO | 71. | Do you try not to be rude to people? |
| YES | NO | 72. | Do you worry too long after an embarrassing experience? |
| YES | NO | 73. | Have you ever insisted on having your own way? |

- | | | | |
|-----|----|-----|--|
| YES | NO | 74. | When you catch a train do you often arrive at the last minute? |
| YES | NO | 75. | Do you suffer from “nerves”? |
| YES | NO | 76. | Do your friendships break up easily without it being your fault? |
| YES | NO | 77. | Do you often feel lonely? |
| YES | NO | 78. | Do you always practice what you preach? |
| YES | NO | 79. | Do you sometimes like teasing animals? |
| YES | NO | 80. | Are you easily hurt when people find fault with you or the work you do? |
| YES | NO | 81. | Have you ever been late for an appointment or work? |
| YES | NO | 82. | Do you like plenty of bustle and excitement around you? |
| YES | NO | 83. | Would you like other people to be afraid of you? |
| YES | NO | 84. | Are you sometimes bubbling over with energy and sometimes very sluggish? |
| YES | NO | 85. | Do you sometimes put off until tomorrow what you ought to do today? |
| YES | NO | 86. | Do other people think of you as very lively? |
| YES | NO | 87. | Do people tell you a lot of lies? |
| YES | NO | 88. | Are you touchy about some things? |
| YES | NO | 89. | Are you always willing to admit it when you have made a mistake? |
| YES | NO | 90. | Would you feel very sorry for an animal caught in a trap? |

Appendix B

Social Exclusion Manipulation

Following their extraversion feedback, participants were randomly allocated to the future belonging or future alone condition and were issued with a personality description of either:

Accepted/future belonging: “You’re the type who has rewarding relationships throughout life. You’re likely to have a long and stable marriage and have friendships that will last into your later years. The odds are that you’ll always have friends and people who care about you.”

Rejected/future alone: “You’re the type who will end up alone later in life. You may have friends and relationships now, but by mid-20s most of these will have drifted away. You may even marry or have several marriages, but these are likely to be short-lived and not continue into your 30s. Relationships don’t last, and when you’re past the age where people are constantly forming new relationships, the odds are you’ll end up being alone more and more.”

Appendix C

Nostalgia measure

For each of the following items, please answer according to how you feel right now.

- 1 = Strongly disagree
- 2 = Moderately disagree
- 3 = Slightly disagree
- 4 = Slightly agree
- 5 = Moderately agree
- 6 = Strongly agree

_____ Right now, I feel quite nostalgic.

_____ Right now, I have nostalgic feelings.

_____ I feel nostalgic at that moment.

Appendix D

According to the Oxford Dictionary, nostalgia is defined as a ‘sentimental longing for the past.’ Please bring to mind a nostalgic event in your life. Specifically, try to think of a past event that makes you feel most nostalgic.

Please write down eight keywords relevant to this nostalgic event (i.e., words that sum up the gist of the experience). You will be asked to recall these keywords later in the experiment.

Keywords that sum up my nostalgic experience:

Please bring to mind an ordinary event in your life. Specifically, try to think of a past event that is ordinary.

Please write down eight keywords relevant to this ordinary event (i.e., words that sum up the gist of the experience). You will be asked to recall these keywords later in the experiment.

Keywords that sum up my ordinary experience:

Appendix E

Empathy Scale

1	2	3	4	5	6
<i>Strongly Disagree</i>	<i>Somewhat Disagree</i>	<i>Slightly Disagree</i>	<i>Slightly Agree</i>	<i>Somewhat Agree</i>	<i>Strongly Agree</i>

I feel sympathetic towards this person.

1	2	3	4	5	6
---	---	---	---	---	---

I feel warm towards this person

1	2	3	4	5	6
---	---	---	---	---	---

I feel compassionate towards this person.

1	2	3	4	5	6
---	---	---	---	---	---

I feel tender towards this person

1	2	3	4	5	6
---	---	---	---	---	---

Appendix F

Empathy Scenarios

Instructions: Please write a short essay regarding something important that has happened to you recently. Your essay should be more than three sentences but no longer than three paragraphs.

When I was in Amsterdam I decided to try it, to see what everyone was talking about. I went to the coffee-shop and asked for a joint. I was very inexperienced with it, I didn't know that I wasn't supposed to mix it with alcohol...

After a few minutes, I felt really dizzy... Then I started to feel like my race became numb. My heart beat felt unfamiliar and strange. I felt really bad and actually thought of seeking medical help. After a sleepless night, I came back to my senses, though I had a really bad headache. After that experience I decided Marlboro-light is just enough for me...

Instructions: Please write a short essay regarding something important that has happened to you recently. Your essay should be more than three sentences but no longer than three paragraphs.

One Christmas my girlfriend bought me a pair of boxer shorts with hearts all over them. I didn't really like them but of course you have to wear them.

I decided to wear them the day I had a graded presentation for one of my modules. I had a quick toilet stop before the presentation so I wouldn't be uncomfortable during it.

When I got up to start the presentation I could immediately see that people were laughing. At first I didn't know what they were laughing at, but then I looked down. Not only was my zip undone, but you could clearly see my heart covered boxer shorts! I felt so bad, but these days I can see the funny side.

Instructions: Please write a short essay regarding something important that has happened to you recently. Your essay should be more than three sentences but no longer than three paragraphs.

Two days ago I broke up with my boyfriend. We've been together since our first year of college and have been really close, and it's been great being at Southampton together. I thought he felt the same way, but things have changed. Now he wants to date other people. He says he still cares about me, but he doesn't want to be tied down to just one person. I've been really down, it's all I think about. My friends all tell me that I'll meet other guys and they say that all I need is for something good to happen to cheer me up. I guess they're right but so far that hasn't happened.

Instructions: Please write a short essay regarding something important that has happened to you recently. Your essay should be more than three sentences but no longer than three paragraphs.

Last week I learned that I had failed in an exam which was so important for me to pass the course. I strongly believe that I studied hard and do not know why I got such a result. Even though I have a final exam of this course, there will be no way to pass it. Eventually, this will be my end, cause I need to take it in the next year and that means I need to take an extra year here to graduate. I feel depressed and so annoyed.

Instructions: Please write a short essay regarding something important that has happened to you recently. Your essay should be more than three sentences but no longer than three paragraphs.

Two weeks ago I broke my leg playing volleyball in the Jubilee Sports Centre. I've been playing on the Uni team for the past two years and I'm upset that my season has been cut short. I'm experiencing pain because of my injury. I'm also having a tough time getting around on campus, as there are lots of hills and stairs that make it hard to use my crutches on. The parking people won't let me get a handicapped permit because they say my injury is only temporary. I've been really sad. I can't stop thinking about it.

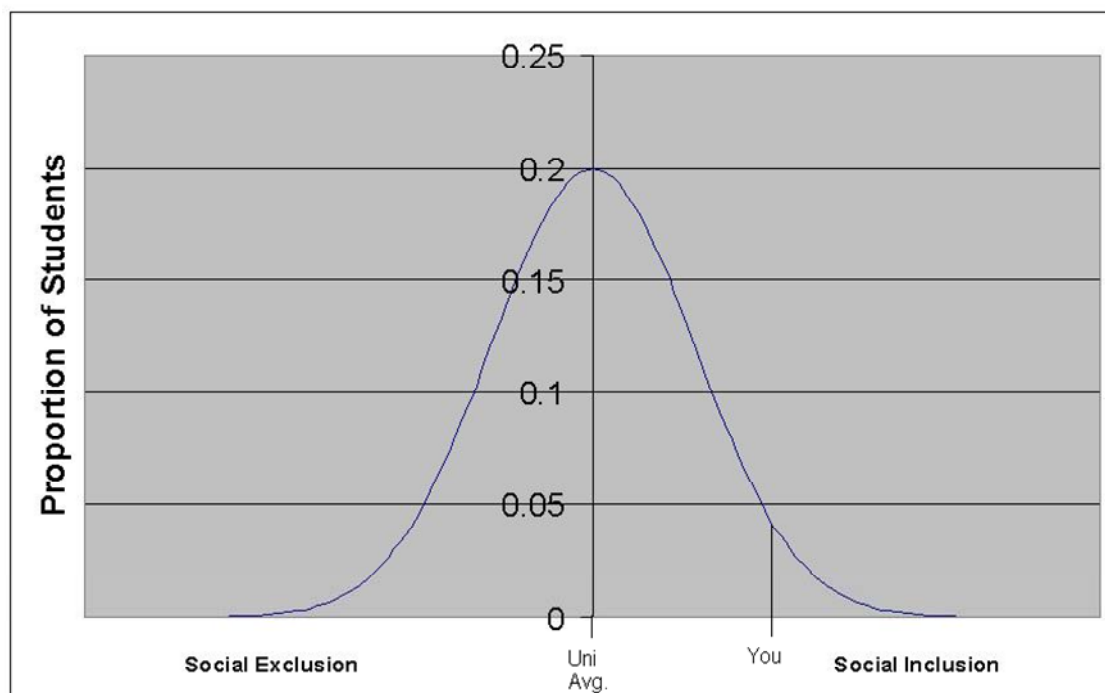
Appendix G

Computerized Belongingness Feedback

According to the computer analysis, you scored

Significantly Higher

Than the University Average



According to the computer analysis, you scored

Significantly Lower

Than the University Average

