4-2015

Hardiness: The Key to a Well-Adjusted College Experience

Amanda M. Munsterteiger
College of Saint Benedict/Saint John's University

Hardiness: The Key to a Well-Adjusted College Experience

AN HONORS THESIS

College of Saint Benedict/Saint John's University

In Partial Fulfillment

of the Requirements for Distinction

in the Department of Psychology

by

Amanda M. Munsterteiger

April 2015

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Abstract

Hardiness is a personal attribute commonly sought in the workplace and greatly valued in students of all ages. This study examined hardiness in relation to stress, happiness, and gender. Ninety undergraduate students from two colleges in the Upper Midwest completed standard surveys on these constructs. It was hypothesized that hardiness would be negatively correlated with stress and positively correlated with happiness. It was also hypothesized that females would report higher hardiness scores than males. The first two hypotheses regarding stress and happiness were tested with bivariate correlations and were found to be significant ($p < .01$). These results were consistent with previous research findings. The test of the third hypothesis, by means of an independent *t*-test, unexpectedly revealed—contrary to the hypothesis—that males were hardier than females. Few previous studies have been conducted on the relationship between gender and hardiness. There are limitations in this study, such as sample variability and internal consistency levels, which hinder its external validity.

Introduction

One of the greatest challenges a student will face is the transition from attending high school and living in a supportive and secure home environment to moving away to college and experiencing true independence for the first time. A transition of this magnitude may require a student to draw upon personal strengths that have been held in reserve; hardiness is one of those signature strengths. A hardy personality consists of three key factors: control, commitment, and challenge (Kobasa, 1979). Together, these three factors allow the individual to achieve success when undergoing stressful situations. Kobasa et al. (1982) describe the first attribute, *control*, as the feeling that an individual is influential in the situations in which they are involved. These individuals do not believe that luck, fortune, or destiny (i.e., external locus of control) will determine the future of their problems. The control factor follows a similar definition as locus of control (Rotter, 1966). Rating high on this factor allows hardy people to cope better with stress because they view their future as predictable, rather than unmanageable.

The second attribute, *commitment*, makes the individual become involved in situations and remain devoted to them. They find meaning in things and feel a sense of purpose in their daily activities. Similar to the first factor, control, commitment is related to a person's locus of control as well. Hull, Van Treuren, and Propsom (1988) found that those who ranked high on the commitment factor often found positive events to have an internal, stable (permanent), and global attribution, and found negative events to have an external, unstable (temporary), and specific attribution. It would be difficult for hardy people to remain committed to a situation if they felt that their actions were useless, so this connection to locus of control proves to be quite logical.

The final attribute of hardiness, *challenge*, allows the individual to believe that change is a normal and positive thing (Kobasa et al., 1982). These individuals view changes as opportunities to grow and learn. In summary, a hardy student is one who believes they can control their own fate, does not ignore pressing issues, and is inspired by challenge. The three-part explanation of hardiness has been widely investigated and scales have been developed to measure the construct.

Hardiness is commonly thought of as being analogous to psychological resilience, but although they are similar, there are a few key differences between the two. In their study on military members' alcohol abuse, Bartone, Hystad, Eid, and Brevik (2012) highlight these differences. Hardiness is currently considered a personality trait, whereas resilience is more of a defense mechanism or process that one undergoes. They believe that hardiness focuses more on the endurance when a situation is tough, and resilience focuses more on the afterthought, or the capacity to recover after difficulties. In this specific study, the researchers preferred to use the "hardy-resilient style" because the two are very closely related. A hardy personality consists of the factors of control, challenge, and commitment, but a hardy-resilient person also displays strong future orientation and optimism (Bartone et al., 2012).

Kobasa et al. (1982) have researched hardiness development and believe that people become hardy if they encounter a wide variety of experiences when young. These experiences allow individuals to gain educational and social knowledge. It is also necessary for young people to have been supported in using imagination and exercising their judgment during childhood. This allows them to develop creativity and minimize dependency. Finally, their role models must also be hardy (Kobasa et al., 1982). A different study, done by Hannah and Morrissey (1987), showed that hardiness developed with age and continued success. The older one gets, the

stronger this personality trait can become and success only continues the persistence of this characteristic. Likewise, failure can inhibit hardiness (Hannah & Morrissey, 1987). Thus, it is possible the development of hardiness may explain college students' successes or failures.

When entering college, many students experience an emotional tension they may not have encountered to this extent in the past: stress. They may experience stress when in demanding situations that he or she feels unprepared for. There are many different sources of stress, such as physical, emotional, environmental, and so on. College students often undergo the same situational stressors, such as due dates, exams, and campus activities.

Prominent stress researcher Hans Selye identified two principal types of stress: eustress and distress (McGowan, Gardner, & Fletcher, 2006). McGowan et al. (2006) describes eustress as a positive reaction to a stressor, whereas distress is a negative reaction to a stressor. People may experience eustress if they feel that the stressful situation ended in a way that positively benefits them. In these situations, one often principally looks at the situation with hope and vigor (McGowan et al., 2006). Although college students certainly experience both forms of stress, the current study aims to research distress rather than eustress. Distress ends in negative psychological states and is bad for one's health (McGowan et al., 2006). When referring to "feeling stressed" in social settings, one is usually referencing distress due to the extensive impact it has on the body and mind.

Various studies have examined the relationship between stress and hardiness and have found significant results. A hardy personality cannot inhibit a person from experiencing stress, but this attribute can help diminish the negative effects of it (Ganellen & Blaney, 1984). For example, a study done on business executives reported that after undergoing a distressful event, those who were hardy were significantly less likely to become physically sick (Ganellen &

Blaney, 1984). This finding can be applied to college students as well. Hystad, Eid, Laberg, Johnsen, and Bartone (2009) found that stress from academics was positively correlated with health problems and negatively correlated with hardiness. Furthermore, students who are hardy may even be less likely to feel stressed by pressure to obtain good grades (Hystad et al., 2009). It has been well established that stress management and health go hand in hand, but it is interesting to find that a personality trait such as hardiness can be a prominent factor as well.

In order to have a successful college life, the student needs to experience happiness. New friends, classes, and living environments can be large contributors to this mental state. When considering happiness it is important to realize how one's explanatory style comes into play. Similar to the measures of locus of control, explanatory style is concerned with how someone perceives events, but it deals with how someone comprehends past events, rather than future ones. Seligman, a prominent happiness researcher, claims that by changing one's explanatory style to be more optimistic one will become more likely to experience true happiness (Goldwurm, Bielli, Corsale, & Marchi, 2006).

In a study done on Malaysian nurses, researchers found that participants with a higher level of hardiness were more likely to report high happiness levels (Abdollahi, Talib, Yaacob, & Ismail, 2014). This study's methods and findings demonstrate that hardiness is a facilitating factor for hardiness (Abdollahi et al., 2014). In another study on a distinctively different population, researchers found that high school students who reported high happiness levels were those who were the hardiest in their classes (Hannah & Morrissey, 1988). Although both studies found significant results on distinct populations, the literature on the relationship between these two variables remains sparse.

It must be noted that stress can play a large role in the hardiness–happiness relationship. Many studies have claimed that large amounts of distress can cause anxiety and depression (Hystad et al., 2009). When facing these stressful issues, researchers found that a hardy person is more likely to seek out social support, which in turn can help create happiness (Ganellen & Blaney, 1984). This form of relationship analyzing of the variables causes happiness to be the product of high hardiness and productive stress coping, rather than directly related to hardiness. Likewise, in Abdollahi and associates' (2014) study on Malaysian nurses, researchers also studied the role of stress in the relation to hardiness and happiness. They found that hardiness can be a mediating factor between perceived stress and happiness and also that hardiness is a protective factor against stress. Based on past research, it cannot be ruled out that stress is a third variable in the hardiness–happiness relationship.

The final factor being examined in relation to hardiness in the current study is gender. As studies regarding sex differences and gender in the workplace become more common among industrial-organizational psychologists, it becomes increasingly relevant to examine how the personality trait of hardiness can play a role in a specific genders success. There is a paucity of studies on this relationship. Hannah and Morrissey (1988) found a significant relationship between gender and hardiness in the previously cited assessment of high school students. Specifically, these investigators found that females were significantly hardier than males. This contradicts another study that found males to be hardier than females, which involved a middle-aged population, so age differences may function as a third variable in this relationship (Hannah & Morrissey, 1988).

The role of gender in regards to hardiness can be a large factor in the workplace and in school settings. Coetzee and Harry (2015) conducted a study at a call center in South Africa. The

stressors of this specific job require workers to have high levels of career adaptability and hardiness. They found that the females in the call center had much higher levels of these two traits. They also found that there was a direct relationship between high hardiness levels and high career adaptability levels (Coetzee & Harry, 2015). This study proves how hardiness can help with overall career and student success, but that more studies must be done in the future in order to make claims about gender in relation to hardiness, because it contradicts other gender specific results in a middle-aged population. In short, existing research is insufficient to conclude whether females or males are hardier.

Future studies on hardiness in relation to stress, happiness, and gender could be very beneficial to society. The hardy personality is something that is widely sought in the workplace, as the study done by Coetzee and Harry (2015) in call centers demonstrates. If educators possessed more knowledge about how to foster a hardy personality they could better prepare students for future struggles they may endure, potentially leading to better scholastic outcomes. In conclusion, awareness of one's hardiness level is beneficial and can help one deal more effectively with situations. By studying it in relation to stress, happiness, and gender it makes it easier to understand the differences of this trait among people.

Various hypotheses can be stated about the relationship between hardiness, stress, happiness, and gender. In this study, three research hypotheses will be tested:

- The hardier one is, the lower the amount of stress one will experience.
- The hardier one is, the higher the level of happiness one will report.
- Females are hardier than males.

Method

Participants

The participants in this study were students enrolled in an Introduction to Psychology course at two private, liberal arts colleges in the Upper Midwest. The total sample ($N = 90$) consisted of traditional college-aged students, with the average age being 19.08 ($SD = .93$). Most students in the study were still in the beginning stages of their college studies: 38.9% were first-years ($n = 35$), 46.7% were sophomores ($n = 42$), 7.8% were juniors ($n = 7$), and 6.7% were seniors ($n = 6$).

The sample included participants from various majors, with 20% social science majors ($n = 18$), 41.1% natural science majors ($n = 37$), 2.2% art majors ($n = 2$), 3.3% business majors ($n = 3$), 2.2% humanities majors ($n = 2$), 7.8% education majors ($n = 7$), and 23.3% majoring in a category not listed ($n = 21$). There were 37 male participants (41.1%) and 53 female participants (58.9%).

White American was the main ethnicity represented in the sample, with 85.6% of participants identifying as part of that ethnic group ($n = 77$). Other ethnic groups represented include 2.2% of participants identifying as Latino ($n = 2$), 1.1% as African Americans ($n = 1$), 10% as Asian/Pacific Islanders ($n = 9$), and 1.1% as those who identified as a non-listed ethnicity ($n = 1$). The average GPA was 3.32 ($SD = .42$).

Materials

The four surveys administered include the Hardiness Scale, the Perceived Stress Scale, the Subjective Happiness Scale, and a demographic questionnaire.

Hardiness Scale. The Hardiness Scale (HS; Bartone et al., 1989) is a survey that includes 30 statements examining a participant's hardiness. Kobasa (1979) describes that hardiness can be

defined in terms of its three factors: control, challenge, and commitment. One must feel control over the problems one faces, rather than simply attributing them as external and unrestrained issues. One must also view the challenge as a valuable thing. Finally, one must be committed to change in order to truly be considered a hardy individual (Kobasa, 1979). The HS asks participants to rate themselves on a Likert scale from 0 to 3 to signify how much they agree or disagree with the survey statements. Cumulative scores can range from 0–90. Some example statements are: "Working hard doesn't matter, since only the bosses profit by it," and "It's hard to imagine anyone getting excited about working." Previous testing found that this scale has a Cronbach alpha coefficient of $\alpha = .85$ (Bartone et al., 1989). The current study found the internal consistency to be $\alpha = .67$. This test was correlated with a previously developed 76-item hardiness inventory produced by the same researcher, which correlates to the shorter survey at the level of .93 (Judkins, 2001). See Appendix A for the items on the HS.

Perceived Stress Scale. The Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983) is a tool for measuring psychological stress levels. The questionnaire consists of 10 questions. A five-point Likert scale is provided. A score of 0 signifies a response of "Never" whereas a 4 signifies "Very Often." A high cumulative score would indicate that the person is currently experiencing large amounts of stress, whereas a low score would indicate that the person is enduring very little stress. Sample items from the PSS are: "In the last month, how often have you been upset because of something that happened unexpectedly?" and "In the last month, how often have you felt that you were on top of things?" The Cronbach's alpha for this scale was previously found to be $\alpha = .91$ (Cohen et al., 1983) and the current study found an internal consistency of $\alpha = .88$. The PSS is viewed as valid because it is associated with the failure to quit smoking, the failure among diabetics to control blood sugar, and a higher

incidence of head colds (Cohen & Williamson, 1988). A study done by Roberti and colleagues found that the PSS has demonstrated convergent validity by being significantly correlated with the State–Trait Anxiety Inventory. Likewise, it has discriminant validity because weak correlations were found between it and the Sensation Seeking Scale, the Santa Clara Strength of Religious Faith Questionnaire, and the Adult Overt Aggression Scale (Roberti, Harrington, & Storch, 2006). See Appendix B for the items on the PSS.

Subjective Happiness Scale. The Subjective Happiness Scale (SHS; Lyubomirsky & Lepper, 1999) measures a participant's reported levels of happiness. This scale consists of only four statements. A Likert scale is provided and one answers based on how the statement does or does not describes them. A cumulative score can range from 4–28. A high score indicates that the participant has a high happiness level and a low score indicates that the participant has a low happiness level. The test-retest reliability of this scale is .72 (Lyubomirsky & Lepper, 1999). The Cronbach's alpha for this survey was previously found to be $\alpha = .85$ (Lyubomirsky & Lepper, 1999). In the current study an internal consistency of $\alpha = .76$ was found. This scale was correlated with the previously developed Affect–Balance Scale, Delighted–Terrible Scale, Global Happiness Item, Recent Happiness Item, and Satisfaction with Life Scale, demonstrating its strong convergent validity (Lyubomirsky & Lepper, 1999). A very low correlation was found between this scale and unrelated factors, such as academic success, thus demonstrating discriminant validity as well (Lyubomirsky & Lepper, 1999). See Appendix C for the items on the SHS.

Demographic questionnaire. This original questionnaire was used to examine participants' personal characteristics. It asks eight questions regarding PRIA number, age, gender, year in college, major being pursued, GPA, ethnicity, and health. The PRIA (Psychology

Research in Action, the departmental subject pool) number is used for anonymity and is an original number given to students to ensure their survey answers will not be associated with their name. The questions regarding PRIA number, age, and GPA were in fill-in-the-blank format. The question regarding health was rated on a Likert scale. The remaining questions asked the participant to choose the answer that represents them best. See Appendix D for the items on the demographic questionnaire.

Procedure

A convenience sample was used to recruit participants for this study. Electronic surveys were administered to participants via the colleges' website. Those who participated in the study were enrolled in an Introduction to Psychology course and received credit for participating in the study. Every person filled out the Hardiness Scale, the Perceived Stress Scale, the Subjective Happiness Scale, and a demographic questionnaire. Two forms of the survey were used to counterbalance order effects.

Results

Hypothesis Testing

The first hypothesis theorized there would be a negative correlation between scores on the Perceived Stress Scale and the Hardiness Scale. A bivariate correlation test was used to analyze this hypothesis. This hypothesis was supported, demonstrating that hardy people experience lower stress levels than those who are not, $r = -.52$ ($p < .01$).

The second hypothesis predicted that there would be a positive correlation between scores on the Hardiness Scale and the Subjective Happiness Scale. A bivariate correlation test was again used. This hypothesis was supported, showing that hardier people experience higher subjective happiness levels, $r = .60$ ($p < .01$).

The final hypothesis in this study examined the differences between males' and females' scores on the Hardiness Scale. It was hypothesized that females would score higher on the HS than males. An independent *t*-test was used to analyze this prediction. A significant difference between the two groups was found, but this study found males to be hardier than females, $t(88) = 2.11$, $p < .05$. The average hardiness score for males was 58.29 ($SD = 1.22$) and the average hardiness score for females was 55.32 ($SD = .81$). One can have a score between 0–90 on the HS, and this significant difference of 2.07 points between males and females scores shows that the males in this sample are hardier than the females.

Exploratory Analysis

Additional hypothesis testing was done to see if any other significant relationships in the data existed. Participants were asked to rate their healthiness on a Likert scale from 1–5. These results were significantly correlated with the HS, which was found with a bivariate correlation. This shows that hardier people experience better reported health, $r = .31$ ($p < .01$). Additionally, reported health levels were significantly correlated with reported stress, showing that healthier people are less stressed, $r = -.35$ ($p < .01$). Finally, reported health levels were also significantly correlated with the SHS, demonstrating that healthier people are happier, $r = .26$ ($p < .05$).

Discussion

A negative correlation between the PSS and HS was found in the current study. Many other studies have found this correlation to be significant as well. It is important to note that this study and the items on the PSS focused on distress rather than eustress. An assumption of the hardiness theory is that people with a hardy personality are less likely to be disrupted by ordinary stressful situations (Hystad et al., 2009). It is not that those who are hardy encounter less or

fewer stressful situations than those who are not; they just handle the stress better and are less affected by it.

The definition of hardiness includes commitment as one of its main three factors. It is possible that hardy people deal with stress more efficiently than others because of this factor. When a stressful situation takes place, instead of procrastinating or ignoring the situation, the commitment factor may cause them to be especially proactive. By dealing with the situation sooner, rather than later, they are efficiently dealing with the stress and creating a more positive experience.

Hardy people may also handle stress better because of the control factor of hardiness. Rather than feeling that the universe is in charge of their fate, hardy people feel that their actions make a significant difference, such as someone with a high internal locus of control would feel. By knowing that they internally have the power to better change a situation they are able to handle stress more productively.

A significant, positive correlation between scores on the HS and SHS was found. There has been little research on this topic. Stress levels were found to be related to happiness, but hardiness has not. Past studies have also found that stress levels are correlated with the hardiness of a personality (Hystad et al., 2009). It could be that stress is actually a third variable in the relationship between happiness and hardiness. When hardy people deal with stress, they do it efficiently and effectively thanks to having high commitment levels and the feeling that they are in control. After the stressful situation has been taken care of, they may feel a sense of personal accomplishment and self worth, ultimately causing their happiness levels to be high. This interaction with the distressful situation may actually cause hardy people to experience the distress as if it were eustress. Because this study found the hypothesis that correlated hardiness

and stress to be significant, the prospect of stress being a third variable in the hardiness–happiness relationship cannot be ruled out.

Sharpley and Yardley (1999), in a study on the hardiness–happiness relationship, found that hardiness was the strongest predictor of happiness among other personal attributes such as the pessimistic explanatory style. The researchers believe that the hardy personality allows one to have confidence in one's ability to handle change, increases their belief in one's general competence, and is a main receiving factor of personal meaning from one's social activities (Sharpley & Yardley, 1999). These beneficial abilities are key to having a happy mind. This explanation is a great base for trying to study the hardiness-happiness relationship in greater detail in future studies.

The final hypothesis in this study predicted a significant difference between males' and females' scores on the HS, with females being hardier. A previous study found that high school females were hardier than high school males (Hannah & Morrissey, 1988). Yet, a different study on an older, adult population found no significant gender differences in hardiness (Hannah & Morrissey, 1988).

The present study unexpectedly found males to be significantly hardier than females. This finding has several plausible explanations. Participants in the present study were undergraduate students typically undergoing very specific stressors (e.g., tests, due dates, etc.). It is possible that the males in this study react better to those stressors than the females do and that this affects their measured hardiness levels. Yet, this explanation is not entirely plausible due to findings that women perform better than men in college and have higher graduation rates. It is possible that the males included in this study are the exception to their gender norm, since they

have already proven their academic abilities by enrolling at a selective university with a good academic reputation.

A second explanation for this finding is that the women in the present study may experience more gender discrimination-based stressors during college years than men, thus causing their hardiness to be lower. It is well known that in the United States men still make more money than women in the workplace and are more likely to be promoted, so it is quite plausible that gender discrimination against women is still happening in undergraduate institutions as well. A study by Kobrynowicz & Branscombe (1997) on college students found that 20% of women reported feeling personally discriminated against in a college setting, based on gender, compared with just 8.5% of men. They also noted in this study that the experiences college men report as gender discrimination were significantly less severe than what college women reported (Kobrynowicz & Branscombe, 1997). Since the first finding on reports of significant differences in gender discrimination is based solely on perception, it would be interesting to see then how large the gap really is when more scientific measures than self-reported personal perception are employed.

Due to this inevitable gender discrimination, the control factor of hardiness could be greatly affected in women. These women have been discriminated against based solely on their gender so it is possible that they feel that external forces, such as society, have a greater impact than do their internal forces. Research supports this claim; in a study done on almost 10,000 participants, investigators found that men had higher perceived control of themselves than the women in the study (Specht, Egloff, & Schmukle, 2013). It is important to note that the other two hardiness factors, challenge and commitment, could most certainly be negatively affected in women as well due to gender discrimination.

Thirdly, it is important to note that this study employed self-report measures, which could cause the data to be an imperfect representation of the participants. Classic American stereotypes deem that men must appear tough and macho. Being hardy asserts that one can overcome a variety of situations, which seems analogous to the typical American man's aspirations. Although past research shows that women have higher social desirability levels than men do (Ambwani & Chmielewski, 2013), the strong relationship between hardiness and the American man's personality aspirations may cause the men to experience higher social desirability levels than the women in the Hardiness Scale. Thus, the men in the present study may have felt more obligated by society to outwardly display a hardy personality, even if one does not exist.

Finally, self-esteem may play a large role in each gender's perceived hardiness levels. Females experience a large drop in self-esteem levels after puberty, whereas males' self-esteem levels increase during this time (Marcotte, Fortin, Potvin, & Papillon, 2002). Eventually, females' self-esteem levels plateau but this mean level stability change still means that females experience lower self-esteem levels than males. Hardiness is an attribute that many want to possess, and the probable lower self-esteem levels of the females in this study may have caused them to answer the Hardiness Scales questions in a more negative way than the males did.

Insufficient research has been conducted to make a claim about which gender is hardier than the other. Klag and Bradley (2004) found that hardiness buffered the effects of stress on illness in adult males but not in females. They also found evidence that relative coping mediated the hardiness-illness relationship in females but not in males. These results seem to almost contradict one another, once again showing that there are significant gender differences in hardiness but that many different factors and stressors affect it, making it currently unfeasible to make a general claim about one gender being hardier than the other.

The additional hypothesis testing found that health had significant relationships with hardiness, stress, and happiness. It is well known in the medical community that stress and health go hand in hand and it also seems manifest that health would affect one's happiness, but there has not been much research on its direct relationship with hardiness. A recent study on military performance found that hardy people usually remain healthy and even interpret painful experiences as a normal part of existence (Kelly, Matthews, & Bartone, 2014). This mental attitude about pain could help hardy people protect themselves from future physical health problems.

It is possible that similar to the hardiness–happiness relationship, stress could be a third variable in the hardiness–healthiness relationship. Since stress is significantly related to hardiness in the current study, this third variable possibility cannot be ruled out. Distress has many negative consequences on the body, such as chest pain, fatigue, and headaches. Hardy people experience the same levels of stress as others, but they handle it in a more productive way. This beneficial method of stress management could in turn stop any physical health issues from conspiring and thus be the reason that hardy people report higher perceived healthiness levels.

In conclusion, some studies on specific populations have been done on the hardiness–health relationship, but seldom do they involve undergraduate students. This lack of research makes it difficult to make theoretical claims about this relationship in regards to the current studies population.

Limitations

All participants in this study attended two small, liberal arts colleges. Students at schools such as this usually share similar characteristics. These similarities could minimize the sample

variability. The sample size that was used was rather small ($N = 90$) and represents less than five percent of the school's population. An internal locus of control is highly related to high levels of hardiness (Hystad et al., 2009) and the development of an internal locus of control may actually be promoted at this school due to the accessibility of professors and resources, in comparison to larger schools where these resources are not always readily available.

All participants were enrolled in an Introduction to Psychology class and thus had some background in psychology and throughout testing may have been able to make guesses about the hypotheses. This could have caused them to alter their answers in order to make themselves appear more attractive and socially desirable. Psychology students may be more attuned to their conscious feelings and personality characteristics than others because of their previous exposure to this field of study. Overall, this could cause a systematic sampling error.

Many of the participants were first-year students ($n = 35$). The first year of college is particularly difficult since there are many transitions taking place in their lives. That could cause major personality changes in some of the participants involved. Personality is regarded as a stable construct across time and situations, but the majority of personality changes take place during adolescent and elderly years (Specht, Egloff, & Schmukle, 2011). This first year of college may be the time that students finally crystallize their personality; thus, this study could include some participants who are undergoing changes in their hardiness levels. This study may also have included participants who had not yet fully adjusted to college life emotionally, which could ultimately have altered some of their experiences and answers on the surveys employed in the study.

There was little age variability in this study. This makes testing age-related hypotheses impossible. There was low ethnic variability, with the large majority being White Americans.

These variables cause the study to have low external validity. The findings are not externally valid since other undergraduate institutions in the United States are oftentimes much more racially diverse than the present sample. Research with a more diverse sample would be more applicable to the general undergraduate population.

Third variables may incidentally be involved in the study. For example, many students took this study during the middle of the semester and it is possible that a significant correlation found between stress levels and hardiness is due to the time of the year (e.g., midterms week), rather than actual, normal stress levels.

A limitation was seen in the use of the HS in this study. Previous studies reported an internal consistency of $\alpha = .85$ for this scale, but this study found an internal consistency of $\alpha = .67$. It is apparent that test taking fatigue played a role in this scale. Two different forms of the test were administered in order to counterbalance this effect. The SHS ($t(88) = -.40$, $p = .69$) and PSS ($t(88) = -.64$, $p = .52$) showed no differences between the two forms, but a significant difference in answers was found between Form A and Form B in the HS ($t(88) = 3.00$, $p < .05$). The average on the HS for Form A was 58.36 ($SD = .94$) and for Form B was 54.28 ($SD = .97$). This may be due to the fact that more males did Form A ($n = 31$) rather than Form B ($n = 6$) and males were found to be significantly hardier than females in the present study.

There was an uneven number of males taking Form A and Form B due to the fact that this study was originally limited to 80 participants. Once all 80 participants' results had been collected, the researcher reviewed the participants' demographics and concluded that more male participants were needed to test the hypothesis regarding gender. Ten more participant spots were then added to PRIA, with only males being allowed to participate. Form A was the form offered on the PRIA system at that time and all 10 males rapidly took the study within the first

three hours it became available. The researcher was then not allowed to add any more participants, making it impossible to counterbalance the number of males taking each form.

Future Directions

Future studies of the traits examined in the current study could be improved with a more varied sample. Adding participants from a larger age range would make it possible to study age differences in hardiness. If studying only college students, a future study could include more students from majors other than psychology. Many of the students in this study were psychology majors or minors, causing systematic sampling error. A larger variety of ethnicities could help a study such as this attain greater external validity in a culturally diverse country such as the United States. Future researchers could also take a different approach and only study one particular ethnicity in order to apply hardiness to that specific culture. If conducting a study with a sample from a population similar to that of the present study, it could be beneficial to only include White American participants, since the majority of participants identify as that ethnicity (85.6%). By doing this, the researcher could then make claims about that demographic as a whole.

The present study asked participants to rate their healthiness levels on a Likert scale ranging from 1–5. The researcher included this question on the demographic questionnaire although it was not directly related to the three hypotheses in the study. The responses to the health question were then correlated with other data in the study and this exploratory analysis found significant results. When scientifically studying health in relation to hardiness, happiness, stress, and gender in the future it is recommended to use a more fully developed scale on health levels. The question included in the current study asked only one question that chiefly measured perceived health levels, but by using a more nuanced and empirically validated health scale, such

as the MOS 36-Item Short-Form Health Survey (Ware & Sherbourne, 1992), the hypothesis testing would be regarded as much more valid and reliable.

In conclusion, hardiness is a personality trait often overlooked in psychology classes. It is important to study this trait because it is highly related to success levels in real-life settings. Hardy individuals can bounce back from setbacks faster and easier. Additionally, studying hardiness in children could help establish a link as to why some students fail in high school and choose not to attend college. Finally, hardiness is pertinent to study in the workplace. With more research in this area, employers would feel more comfortable administering hardiness surveys to get a sense of what potential employees can offer their company.

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Appendix A

Hardiness Scale

Below are statements about life that people often feel differently about. Circle a number to show how you feel about each one. Read the items carefully, and indicate how much you think each one is true in general. There are not right or wrong answers; just give your own honest opinions.

Not at all true	A little true	Quite true	Completely true
0	1	2	3

1. Most of my life gets spent doing things that are worthwhile.	0 1 2 3
2. Planning ahead can help avoid most future problems.	0 1 2 3
3. No matter how hard I try, my efforts usually accomplish nothing.	0 1 2 3
4. I don't like to make changes in my everyday schedule.	0 1 2 3
5. The "tried and true" ways are always best.	0 1 2 3
6. Working hard doesn't matter, since only the bosses profit by it.	0 1 2 3
7. By working hard you can always achieve your goals.	0 1 2 3
8. Most of what happens in life is just meant to be.	0 1 2 3
9. When I make plans, I'm certain I can make them work.	0 1 2 3
10. It's exciting to learn something about myself.	0 1 2 3
11. I really look forward to my work.	0 1 2 3
12. If I'm working on a difficult task, I know when to seek help.	0 1 2 3
13. I won't answer a question until I'm really sure I understand it.	0 1 2 3
14. I like a lot of variety in my work.	0 1 2 3
15. Most of the time, people listen carefully to what I say.	0 1 2 3

16. Thinking of yourself as a free person just leads to frustration. 0 1 2 3

17. Trying your best at work really pays off in the end. 0 1 2 3

18. My mistakes are usually very difficult to correct. 0 1 2 3

19. It bothers me when my daily routine gets interrupted. 0 1 2 3

20. Most good athletes and leaders are born, not made. 0 1 2 3

21. I often wake up eager to take up my life wherever it left off. 0 1 2 3

22. Lots of times, I don't really know my own mind. 0 1 2 3

23. I respect rules because they guide me. 0 1 2 3

24. I like it when things are uncertain or unpredictable. 0 1 2 3

25. I can't do much to prevent it if someone wants to harm me. 0 1 2 3

26. Changes in routine are interesting to me. 0 1 2 3

27. Most days, life is really interesting and exciting to me. 0 1 2 3

28. It's hard to imagine anyone getting excited about working. 0 1 2 3

29. What happens to me tomorrow depends on what I do today. 0 1 2 3

30. Ordinary work is just too boring to be worth doing. 0 1 2 3

Appendix B

Perceived Stress Scale

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way.

0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often

1. In the last month, how often have you been upset because of something that happened unexpectedly?..... 0 1 2 3 4

2. In the last month, how often have you felt that you were unable to control the important things in your life? 0 1 2 3 4

3. In the last month, how often have you felt nervous and "stressed"? 0 1 2 3 4

4. In the last month, how often have you felt confident about your ability to handle your personal problems? 0 1 2 3 4

5. In the last month, how often have you felt that things were going your way?..... 0 1 2 3 4

6. In the last month, how often have you found that you could not cope with all the things that you had to do? 0 1 2 3 4

7. In the last month, how often have you been able to control irritations in your life?..... 0 1 2 3 4

8. In the last month, how often have you felt that you were on top of things?.... 0 1 2 3 4

9. In the last month, how often have you been angered because of things that were outside of your control?..... 0 1 2 3 4

10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? 0 1 2 3 4

Appendix C

Subjective Happiness Scale

For each of the following statements and/or questions, please circle the point on the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

1	2	3	4	5	6	7
not a very happy person						a very happy person

2. Compared to most of my peers, I consider myself:

1	2	3	4	5	6	7
less happy						more happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1	2	3	4	5	6	7
not at all						a great deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1	2	3	4	5	6	7
not at all						a great deal

Appendix D

Demographic Questionnaire

PRIA number: _____

Age: _____

Year in College: First-year Sophomore Junior Senior More than 4 years

Gender: Female Male Transgender

Current GPA: _____

Major Category: Social science Natural science Art Business Humanities
Education Major category not listed

Ethnicity: White / Caucasian Hispanic / Latino African American
Asian / Pacific Islander Non-listed ethnicity

How often do you feel healthy? 1 = Always sick, 5 = Always healthy:

1 2 3 4 5