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Distress Disclosure and Personality in College Students

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Distress Disclosure and Personality

DISTRESS DISCLOSURE AND PERSONALITY IN COLLEGE STUDENTS

by

Elizabeth R. A. Klunk

A Thesis

Presented to the faculty of

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Abstract

This study examined distress disclosure, the tendency to confide unpleasant feelings and experiences to others. Other factors under consideration were gender, personality factors (such as extraversion and one's general tendency to disclose), and the identity of the person to whom individuals were asked to disclose. The subject pool included 22 male and 34 female volunteers from Bucknell University. Participants were asked to complete a measure of basic demographics, the Distress Disclosure Index, and the NEO-FFI measure of personality. They were then asked to disclose about an aspect of their lives that they personally found stressful, as if they were confiding in a best friend, a parent, or a professor, respectively. The transcriptions of those recordings were coded for length, depth, and breadth of the disclosure. The researcher hypothesized that greater length, depth, and breadth would be disclosed by females who scored high on the Distress Disclosure Index, had high extraversion scores on the NEO-FFI, and had been asked to disclose to a best friend. The study found positive associations between openness and depth, neuroticism and depth, and gender with length, such that males were more likely to have longer disclosures. Negative associations were found between extraversion and depth, neuroticism and length, and openness and breadth. Personality factors, gender, and the disclosure target may act as better predictors of the tendency to disclose, rather than of the particular dimensions of disclosure, since every instance is unique.

Introduction

Distress disclosure is a psychological phenomenon concerning the process of confiding one's stressful or negative experiences or feelings to others or expressing them through journaling (Jourard & Lasakow, 1958). Its practice has been associated with benefits to physical and psychological health, including lowered stress levels, strengthening of the immune system, lowered blood pressure, and an increased sense of one's well-being and capabilities (Gore-Felton, Koopman, Power, Israelski, & Duran, 2008; Kahn & Hessling, 2001; Pennebaker & O'Heeron, 1984; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). Utilizing social support as a coping mechanism through confiding in others can be very valuable for recovery from a traumatic or stressful life event (Swickert, Rosentreter, Hittner, & Mushrush, 2002). Deciding whether or not to do so is influenced by individual differences in personality, situation, and motivations for disclosure (Omarzu, 2000). The goal of the present investigation was to explore the effects that personality, gender, and interpersonal relationships have on the practice of distress disclosure.

The concept of distress disclosure is distinct from self-disclosure, or telling others information about oneself in general, and self-concealment, the practice of keeping one's identity, thoughts, and emotions hidden or to oneself (Kahn & Hessling, 2001). It involves the open volunteering of personal and unpleasant feelings and thoughts. This can occur through written disclosure, such as journaling; prayer or another means of expression to a deity (or higher power); and confiding in other human beings. This last

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method of disclosing will be the focus of this study. Interpersonal factors regarding the relationship between the two individuals, situational factors related to the event or emotion about which one is disclosing, and personal factors such as shyness, insecurity, and/or issues with trusting other people can all play into the decision of whether or not to disclose to another person. The disclosure itself can differ based on its depth, the intimacy of the feelings and thoughts being expressed; breadth, or the amount of information offered; and duration, or the length of time for which one discloses (Chelune, 1976). The nature of the disclosure varies on a situational basis, but the general tendency to disclose one's negative experiences to others is "a bipolar and unidimensional trait-like individual difference" (Kahn & Hessling, 2001, p. 43). This means that it can be measured as a single construct along a spectrum which has at its poles distress disclosure and distress concealment, and that individuals vary along this spectrum but a given individual is fairly consistent in where he or she falls upon it. As such, this tendency is measurable in the same ways that personality is measured, allows comparisons to be made across populations, and can be used to draw generalizations about the degree to which individuals are likely to disclose.

Distress disclosure is one of many means to gaining social support from others, and it is an effective one (Coates & Winston, 1987). An important way to gain help and support from others is to let them know that help is needed in the first place. The process of describing the unpleasant situation or emotion allows the audience to understand, empathize with, and realize how to help the discloser. Going to a trusted friend, family member, or other potential source of support and sharing information about the problem

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at hand is often the first step of utilizing social support. In addition, measures of distress disclosure have a strong, positive relationship with measures of social support seeking (Kahn & Hessling, 2001).

Von Dras and Siegler (1997) observed that one important factor in the perception and use of social support may be personality. Extraversion is the most socially oriented component of the Big Five Model of personality; therefore, it makes sense that this factor in particular would have an effect on the form of distress disclosure which utilizes social resources. According to the Five Factor Model of personality traits (Costa & McCrae, 1992), extraversion is characterized by excitement seeking, desiring high levels of social interaction, assertiveness, and energy. Hans Eysenck (1973) attempted to explain this trait physiologically, stating that extraverts and introverts vary in typical levels of cortical arousal. Extraverts have a low baseline level of cortical arousal and introverts, a higher one; this leads extraverts to seek more stimulation through social interaction and other exciting situations. This heightened pursuance of social situations can provide extraverts with many potential sources of social support and many opportunities to disclose a personal problem to a social contact.

The outgoing, highly gregarious nature of extraverts usually leads to the development of a large social network (McHugh & Lawlor, 2012). This larger network will likely lead to a high level of perceived social support for the extravert, and increased social support often leads to increased self-disclosure (Bergeman, Plomin, Pedersen, McClearn, & Nesselroade, 1990). As the research currently stands, the studies on the closeness or intimacy of those networks and relationship satisfaction are not yet plentiful

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enough to be conclusive (Swickert et al., 2002). Having large numbers of friends and other social contacts does not necessarily indicate that extraverts have a strong basis of helpful support when it is needed. However, it does seem intuitive that extraversion as a personality trait would indicate an increased willingness to disclose distressing personal information to others, and there is some evidence that seeking guidance is a more prevalent behavior in extraverts (Amirkhan, Risinger, & Swickert, 1995). Therefore, this study hypothesized that extraversion will correlate positively with a tendency toward distress disclosure.

One's general tendency to disclose or not also determines his or her decision to disclose and amount of disclosure when it does occur. This is another personality variable which varies on a continuum from high distress disclosure to low distress disclosure and can be measured by Kahn and Hessling (2001)'s Distress Disclosure Index. Scoring highly on the Distress Disclosure Index is associated with increases in social support, self-esteem, and life satisfaction and decreases in psychological distress, depression, and loneliness (Pennebaker & O'Heeron, 1984; Pennebaker et al., 1988). This measure is designed to explore the individual differences that exist in various people's attitudes toward and typical practice of distress disclosure. It examines an individual's overall inclination toward disclosing and choice to disclose (or not) in the first place, rather than addressing the qualities or variation in specific instances of distress disclosure.

Another factor that may relate to distress disclosure and was considered in this study is gender. The role of this factor in distress disclosure has proven to be a somewhat

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ambiguous one, since much of the existing literature focuses solely on women (Harrison, Maguire, & Pitceathly, 1995) and therefore cannot lend itself to comparisons between women and men. Perhaps counterintuitively, a few studies have found that so long as the situation and the goal of disclosing are both clearly defined, men disclose as much as women do and sometimes more (Derlega, Winstead, Wong, & Hunter, 1985; Omarzu, 2000; Shaffer & Ogden, 1986). However, a meta-analysis of gender differences in disclosure research has found that generally, men disclose less than women (Dindia & Allen, 1992), and women tend to score higher on the Distress Disclosure Index than men do (Kahn & Hessling, 2001). Women also scored higher on measures of social support (Cutrona & Russell, 1987) and reflective self-consciousness (Scheier & Carver, 1985). These are two constructs that inform and tend to increase distress disclosure; having access to and a high opinion of social support makes one more likely to utilize it than not, and reflecting on one's state of mind and wellness helps increase awareness of when there is a problem to be disclosed (Greenland, Scourfield, Maxwell, Prior, & Scourfield, 2009). Studies of young men, in contrast, have found that they often struggle with or refrain from asking for help in times during which they are experiencing distress (Rickwood & Braithwaite, 1994; Schonert-Reichl & Muller, 1996), and this may be a contributing factor to the increases in suicide among this cohort (Greenland et al., 2009).

Greenland et al. (2009), in a study including both male and female participants, found that greater social support was associated with increased distress disclosure in women. However, there was no such relationship found between social support and distress disclosure for the male participants. This finding indicates that even increasing

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the social support available to males may not increase their level of distress disclosure to those present targets, whereas increasing the social support available to women often does have the effect of increasing their level of distress disclosure. A difference in the utilization of social support by males as opposed to by females, then, rather than in the amount of social support that is available for males versus for females, is implied by these trends. This difference in social interaction and support utilization may relate to the common perception that women are more likely to express their emotions than men. Social constructs such as gender roles play into this perception and the respective acceptability of women expressing their emotions, in contrast to men doing the same. Femininity as a gender identity or set of characteristics also had a strong, positive association with distress disclosure (Greenland et al., 2009), and masculine and feminine characteristics are typically seen as generally distinct, or even mutually exclusive. Changing the perception of distress disclosure from a feminine tendency to a healthy psychological practice for all people regardless of gender may help encourage males to disclose more and gain the related mental and emotional benefits. However, it may take quite a while for this more gender-egalitarian view to take hold, and as it stands, males are less likely to utilize their social support system through engaging in distress disclosure (Greenland et al., 2009).

Other studies of gender differences in disclosure found that men differ from women not so much in their likelihood of disclosing, but in their choice of confidante: Harrison et al. (1995), found that men were far more likely to disclose to one person, most often their intimate partner, than were women, who tended to disclose to a wider

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circle of trusted family members and friends in addition to their significant other. Likewise, Antonucci and Akiyama (1987) found that men were likely to confide exclusively in their partners and talk to them when upset, whereas women made use of a larger social network for confiding and talking when they were upset. Women talked to their partners as well, but they were far more likely than men to also confide in friends, family members, and even their children in addition to their partners. Speculative explanations for these discrepancies mostly consider social factors. Men have traditionally not engaged in discussing personal or emotional issues outside of the home, and they may have trouble changing this habit even in times of crisis; therefore, their distress disclosure tends to be limited to their partner, with whom they can engage in disclosure and from whom they can obtain support without bringing their emotional struggles into the public sphere. On the other hand, since women are more used to sharing emotions with close friends and family, they may be more inclined to continue doing so in situations of crisis (Harrison et al., 1995). This overall trend of limited disclosure in men and the greater level of social acceptability for emotionality in women rather than in men led to the hypothesis that females would be more likely to engage in distress disclosure than males.

The process of distress disclosure also varies based upon the identity of the person to whom one is disclosing. The closeness and quality of that relationship dramatically affects both the emotional depth the discloser feels comfortable reaching and their willingness to disclose at all in the first place (Omarzu, 2000). Another factor impacting the choice of audience chosen by a discloser is the type of help that audience can offer.

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Though simply expressing the negative emotions can be relieving for the discloser, individuals are more likely to disclose to those who can actually offer help with the specific situation at hand. This could have an impact on disclosure, since different audiences have varying abilities to assist with different situations; the most helpful choice of audience is not always the same across all instances.

The three types of disclosure audiences being investigated in this study are a best friend, a parent, and a professor. Individuals tend to have closer relationships with their friends and with family members than with those outside their immediate social circle, which likely contributes to a higher willingness to disclose. An imbalance of power in the relationship, such as occurs between a professor and student or between a parent and child, would likely lower one's willingness to disclose to the person in a higher position of power. In the case of the parent, both effects come into play, and the level to which the child discloses varies on the basis of that particular relationship. The specific situation also affects the audience to whom it would be most practically helpful to disclose, but these are unpredictable and can be different for each discloser. It could be argued that older individuals are likely to have a greater capability for offering actual assistance, an effect that would counteract that of an imbalance of power. It could also be suggested that one would have the greatest level of similarity and support-seeking with a friend, however, since peers are more likely to be going through comparable situations and to be coming from a sympathetic mindset. Therefore, this study hypothesized that the level of disclosure on all three measures would be highest when one is disclosing to his or her best friend and lowest when disclosing to a professor.

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Examining the disclosure process and how it is carried out in individuals will contribute to the growing, but not yet fully developed, body of literature on the subject and will help contribute to a model of how distress disclosure is decided upon and of the factors that influence it. These factors may include personality, gender, one's general attitude toward disclosure, and the identity of the person to whom one is disclosing, among others. The current study took these four factors into account and analyzed how they impacted several dimensions of disclosure: length, depth or intimacy, and breadth of information provided. Knowing about the nature and strength of relations between these factors and the different dimensions of distress disclosure may help psychologists encourage and positively impact the process of distress disclosure and thereby improve the mental health of those who have experienced the distress.

Hypotheses

1. Individuals who rate high in extraversion would tend to have greater depth, breadth, and length.
2. Females would also be more inclined to score highly on the three dimensions of distress disclosure.
3. Those who tend to use disclosure often as a coping strategy would engage in deeper disclosure regardless of the person to whom they were instructed to disclose.
4. The length, depth, and breadth of disclosure would be greatest in those instructed to confide in a best friend and lowest in those instructed to confide in a professor.

Method

Participants

The sample consisted of 19 males and 34 females from Bucknell University. When asked to identify their ethnicity, 84.9% of participants were Caucasian, 5.7% were Asian American, another 5.7% were Hispanic, 1.9% were black or African American, and 1.9% self-identified as “other.” There were 14 first-year students (26.4%), 23 sophomores (43.4%), 7 juniors (13.2%), 6 seniors (11.3%), and 3 graduate or continuing education students (5.7%). The ages ranged from 18 years to 42 years, with an average age of 21 years old and most participants being under 21 years of age. Twenty-one participants self-identified as Roman Catholic (39.6%), 14 as Protestant/Evangelical Christian (26.4%), 5 as atheist (9.4%), 4 as agnostic (7.5%), one as Muslim (1.9%), and 8 as “other” (15.1%).

The sample was taken in two different pools, both from the population of students at Bucknell University. The first pool consisted of 33 participants who were on Bucknell University’s campus for summer session 2013, and included matriculated students, students conducting or assisting with research, and students employed on campus or working in the community. Participation was on a strictly voluntary basis. The principal researcher visited two classes to ask for participants in person and posted a request for participants on a social networking page (a Facebook group) that consisted of students that were on campus for the summer. The second pool was taken during the fall of 2013 and consisted of Psychology 100 students. Requests for participation in the study were

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posted in the psychology building, and students signed up at will. This fall semester sample included 28 students.

This began the study with a subject pool of 61 participants. However, eight of those students, for whom English was a second language, could not be included in the study, because the audio recordings of their disclosures were largely unintelligible and could not be transcribed with any assurance of accuracy. Therefore, the data from those eight were removed, leaving 53 participants¹. Eliminating that data unfortunately included removing many students of nonwhite ethnicities, contributing to the already clear domination of Caucasian participants in the subject pool. In addition, all eight were males. This accounts for the considerable discrepancy between the number of males and the number of females included in the study.

Participants were offered incentives for participating in the study. For the summer sample, students who were taking summer session psychology courses received extra credit for participating. For the fall semester sample, all participants were enrolled in a Psychology 100 course. In this course, research participation is required, and taking part in this study counted toward half an hour of those experimental requirements.

Procedures

Participants were brought into a lab in the psychology building individually and asked to talk about the most stressful aspect of their time at Bucknell. One-third of the

¹ When these eight participants' written data (NEO-Five Factor Inventory and Distress Disclosure Index) were compared to that of the other 53, the eight actually differed significantly on extraversion and their DDI scores; both were slightly higher than the main group's scores ($t(25) = -2.33, p = .03$ and $t(20.30) = 1.17, p = .26$). This was an interesting finding, but without the dependent variable data from the transcriptions, they still could not be included in the final analysis.

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participants were instructed to speak as if they were talking to their best friend, one-third were instructed to speak as if they were talking to a parent, and one-third were instructed to speak as if they were talking to a professor. They were asked to state their randomized ID number into an audio recorder to test the device. After it was ascertained that the device was functioning properly, they were left alone in the room to record their requested disclosure. Participants were given as much time as they liked to complete this section. After they were finished, participants summoned the researcher from the back room and were given the written measures. These included: a survey of demographic information (age, year in school, gender, ethnicity, and religious affiliation), the Distress Disclosure Index (Kahn & Hessling, 2001), and the NEO-Five Factor Inventory (Costa & McCrae, 1992). These were administered in paper form with no time constraint.

The audiotapes from the recorded portion of the study were transcribed by the primary researcher and then erased at the library technology desk. After transcription, the individual samples were marked only by the subjects' ID numbers, not by names. The text then had to be read and coded. The bulk of the literature on distress disclosure involves quantitative or retrospective studies, so there was little precedent for a coding system that would suit the analysis of a disclosure sample that happened in the lab. However, Chelune (1976) used a no-interviewer condition in which participants were asked to disclose without any other person present. They were simply given a tape recorder and an interview topic, and the recordings were later listened to and transcribed. Chelune used this method as a third condition, the first and second of which included the presence of a male and of a female interviewer, respectively, in order to control for the

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effects of the gender of the disclosure target. The current study made use of this method in order to likewise remove any possible influence the primary researcher may have had on the participants' distress disclosure. The dimensions of distress disclosure that Chelune had explored in a second 1976 study, namely, length, depth, and breadth, seemed to be important aspects to investigate, so these were chosen as the focus and the no-interviewer condition as the methodology for the current study.

Sentences are often unhelpful in coding spontaneous responses, because people who are speaking, rather than writing their thoughts down, tend not to deliver their sentiments in orderly sentences if not rehearsed. Such was the case in this study, and in order to avoid missing important statements or weighing statements that included five clauses equally with statements that include only one or two clauses, the text was instead broken up into meaningful units by the primary researcher. These are defined as clauses that have a distinct meaning and therefore can stand on their own (Charmaz, 1995; Chelune, 1976). A team of senior Bucknell psychology students then read and scored the transcriptions for two of the three dimensions of distress disclosure: breadth and depth. Units that described the situation itself in an explanatory manner were coded as units of breadth. Examples of units that were coded as breadth include "She had brain cancer for five years," and "I broke my leg." Units that described inner emotions, thoughts, and reactions of the individual were coded as units of depth. Examples of units that were coded as depth include "I feel like I'm kind of on my own," and "I felt really stressed." Units that commented on the research process, were unrelated statements, or directly addressed the researcher were coded as unrelated/uncodable. Examples of unrelated units

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include “I’m not being very good at this at all,” and “That’s about it.” The proportions of how many of each measure were present per total number of units were calculated to form a comparable measure of that dimension for each transcription.

Inter-rater reliability and agreement of this coding was measured using an Intraclass Correlation Coefficient, defined by McGraw & Wong as “a measure of the proportion of a variance that is attributable to objects of measurement” (1996, p. 30). This measure was used because the order of the coders could not be assigned on any logical basis. A correlation coefficient is optimally higher than .9 and required to be higher than .8; the Intraclass Correlation Coefficients for depth and breadth as coded by the team were .84 and .90, respectively. This determined that the coding system and raters were reliable, so the sets of scores given by the two coders were each averaged to find one score for depth and one score for breadth.

There were several different ways in which to obtain a quantitative score of the final dimension of distress disclosure: length. The first possibility was to use the transcription’s duration in seconds, as measured automatically by the audiorecorder. This was objective but somewhat problematic, since individuals vary in how quickly they speak and in how many pauses occur in their disclosure samples. A second approach to measuring length was by comparing the word count of their transcriptions. This method was also fairly objective but also problematic; the word counts included filler phrases, such as ‘um,’ ‘like,’ and ‘you know,’ the frequency of which varied among individuals as well. Finally, a third method of measuring length was by the number of meaningful units contained in the transcription. This was perhaps the least objective possibility, because it

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was the only one which was vulnerable to any subjectivity. However, it accounted for many of the problems presented by the first two measures. To determine which of the methods was the most appropriate, all were calculated and then compared. The correlations between all three measures were extraordinarily high. Length in seconds had a strong positive correlation with length by word count ($r = .95, p = .00$) and with length in meaningful units ($r = .92, p = .00$). Length by word count and length in meaningful units also correlated strongly and positively ($r = .96, p = .00$). Because all three measures of length were so strongly correlated, it seemed that any were usable. The length in seconds, as the only method that was not dependent on the primary researcher's transcribing, was the most objective, and therefore this method was used as the measure of the final dimension of distress disclosure.

Measures

Distress Disclosure

The Distress Disclosure Index (Kahn & Hessling, 2001) includes 12 items that are rated on a 5 point Likert-type scale, ranging from 1 (strongly disagree) to 5 (strongly agree). It measures the tendency to disclose negative events or emotional experiences as a unidimensional construct, with higher scores indicating higher willingness or tendency to disclose. High scores have been associated with lowered stress levels, a stronger immune system, high self-esteem, lowered blood pressure, and an increased sense of one's well-being and capabilities (Gore-Felton et al., 2008; Kahn & Hessling, 2001; Pennebaker & O'Heeron, 1984). The Distress Disclosure Index has been cited nearly one

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hundred times in just the twelve years since it was published, and this study found an internal consistency rating of .94 for the measure.

Personality

The NEO-Five Factor Inventory (Costa & McCrae, 1992) is a widely used personality measure that has been accepted and popularized since its first publication; a literature search for the NEO-Five Factor Inventory reveals over nine thousand results. The measure considers the dimensions of the Five Factor Model: neuroticism, openness, extraversion, conscientiousness, and agreeableness. It includes 60 items to be rated on a five-point Likert scale, from 0 (strongly disagree) to 4 (strongly agree). Twelve items correspond to the neuroticism factor, with a Cronbach's reliability alpha of .87, twelve items correspond to openness, with an alpha of .71, twelve correspond to extraversion and have an alpha of .87, twelve correspond to conscientiousness with an alpha of .83, and twelve correspond to agreeableness and have an alpha of .78.

Results

The present study was designed to study the association between personality (as measured by the NEO-Five Factor Inventory), gender, one's general tendency toward disclosing (as measured by the Distress Disclosure Index), and the identity of the person to whom one is disclosing on three dimensions of distress disclosure: length, depth, and breadth. The hypotheses were that individuals who rate high in extraversion and who are female would rate highly on the three dimensions of disclosure; that those who tend to

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use disclosure often as a coping strategy would engage in deeper disclosure regardless of the person to whom they were instructed to disclose; and that the length, depth, and breadth of disclosure would be greatest in those instructed to confide in a best friend and lowest in those instructed to confide in a professor. All data analysis was carried out with SPSS 21 and began with descriptive analyses, testing for normal distribution, and finding correlations and relationships between the independent and dependent variables. The data were normally distributed with adequate ranges and no outliers. Descriptive statistics for the main independent variables (extraversion and composite score on the Distress Disclosure Index) and dependent variables (length, depth, and breadth) are shown below in Table 1.

Table 1

Descriptive Statistics for Extraversion, DDI, Length, Depth, and Breadth

Variable	M	SD	Possible Range	Observed Range
Extraversion	30.42	7.21	0-60.00	7.00-46.00
DDI composite	39.25	8.93	0-60.00	20.00-53.00
Length (seconds)	133.09	91.39	N/A	35.00-486.00
Depth	.14	.09	0-1.00	.00-.39
Breadth	.82	.11	0-1.00	.61-1.00

Note: DDI = Distress Disclosure Index

Correlations Between Variables

Pearson product-moment correlations were run to assess the association between the dependent variables (length, depth, and breadth). Breadth was shown to be inversely correlated with depth ($r = -.82, p = .00$), indicating that people who had a high proportion of breadth, or detail about the situation, in their disclosure were likely to have a lower

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proportion of depth, or emotion, by comparison; this was a strong effect, with $r^2 = .67$.

No other significant correlations were found, as shown in Table 2 below.

Intercorrelations between the independent variables (extraversion, general tendency to disclose as measured by the Distress Disclosure Index (DDI), gender, and the identity of the disclosure target) were likewise investigated. Extraversion was shown to be positively correlated with one's general tendency to disclose ($r = .41, p = .00$), indicating that those people with higher extraversion scores also reported a high tendency to disclose in general, shown by higher scores on the DDI. This correlation reflected a moderate effect ($r^2 = .17$). No other significant correlations were found (see Table 2).

Next, the correlations between extraversion scores and the three disclosure variables were examined. Extraversion was inversely correlated with depth ($r = -.36, p < .01$), which indicated that people who scored highly on measures of extraversion tended to have a low proportion of depth or emotionality in their disclosure ($r^2 = .13$). Distress Disclosure Index scores were not significantly correlated with any of the three dependent variables. These correlations are displayed in Table 2, below.

Table 2

Intercorrelations Between Variables

Variable	1	2	3	4	5
1. DDI	1				
2. Extraversion	.41*	1			
3. Length	.06	.26	1		
4. Depth	-.02	-.36*	-.01	1	
5. Breadth	-.02	.22	.00	-.82*	1

Note: DDI= Distress Disclosure Index

* $p < .01$

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Analyses of Variance

A series of 2 (male versus female) x 3 (disclosure target: best friend versus parent versus professor) ANOVAs were conducted, one for each of the disclosure variables.

Descriptive statistics are shown in Table 3. The results are shown in Tables 4, 5, and 6.

Table 3

Descriptive Statistics by Gender and Disclosure Target

	Best Friend		Parent		Professor	
	M	SD	M	SD	M	SD
Length						
Men	143.30	63.76	245.75	187.35	140.80	140.36
Women	118.80	75.14	109.77	40.11	119.91	89.46
Depth						
Men	.14	.08	.06	.04	.10	.08
Women	.12	.09	.19	.13	.14	.07
Breadth						
Men	.82	.08	.87	.06	.86	.12
Women	.82	.13	.79	.13	.80	.12

Note: Length is measured in seconds; Depth and Breadth are measured as proportions

Table 4

Between-Subjects Effects: Length

	Sum of Squares	Df	Mean Square	F	Sig.
Disclosure Target	19834.48	2	9917.24	1.26	.29
Gender	40223.03	1	40223.03	5.09	.03
Disclosure Target * Gender	28667.68	2	14333.84	1.82	.17
Error	371214.47	47	7898.18		

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Table 5

Between-Subjects Effects: Depth

	Sum of Squares	Df	Mean Square	F	Sig.
Disclosure Target	.00	2	.00	.13	.88
Gender	.03	1	.03	3.52	.07
Disclosure Target * Gender	.04	2	.02	2.52	.09
Error	.40	47	.01		

Table 6

Between-Subjects Effects: Breadth

	Sum of Squares	Df	Mean Square	F	Sig.
Disclosure Target	.00	2	.00	.05	.95
Gender	.02	1	.02	1.45	.24
Disclosure Target * Gender	.02	2	.01	.61	.55
Error	.63	47	.01		

These analyses revealed a significant relationship between gender and length; $F(1, 47) = 5.09, p = .03$. Examination of the means in Table 3 indicated that this relationship is such that males were more likely to have longer disclosures than females. No other relationships or interactions were significant.

Additional 2x3 ANCOVAs were run to measure any possible effects that gender and the identity of the disclosure target may have on depth after accounting for the covariance of extraversion, because the correlation between depth and extraversion was shown to be significant. The results for gender were still nonsignificant ($F(1) = 2.47, p = .12$), as were the results for disclosure target ($F(2) = .13, p = .88$). It appeared that even

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after accounting for the amount of variance in depth that could be explained by extraversion, neither gender nor disclosure target had a significant effect on depth. Neither did the interaction between gender and disclosure target.

Exploratory Analyses

Because the full NEO-Five Factor Inventory had been administered, Pearson product-moment correlations were run for the other four factors of the model (openness, neuroticism, conscientiousness, and agreeableness) to check for their association with length, depth, and breadth of disclosure. Intercorrelations included positive correlations of agreeableness with openness ($r = .32, p = .02$) and agreeableness with conscientiousness ($r = .31, p = .03$). Thus, individuals who scored highly on agreeableness were more likely to also score highly on openness and conscientiousness. Openness was positively correlated with depth ($r = .33, p = .02, r^2 = .11$) and negatively correlated with breadth ($r = -.37, p < .01, r^2 = .14$). This indicated that participants who scored highly on openness were more likely to include greater depth in their disclosures but less breadth. Neuroticism was inversely correlated with length ($r = -.40, p < .01, r^2 = .16$) and positively correlated with depth ($r = .27, p < .05, r^2 = .07$). This indicated that those who scored highly on neuroticism were more likely to have shorter disclosures but tended to include more depth in those disclosures. Conscientiousness and agreeableness showed no significant correlations with any of the three dimensions of disclosure, as shown below in Table 7.

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Table 7

Correlations Between Variables

Variable	1	2	3	4	5	6	7
1. Openness	1						
2. Conscientiousness	-.07	1					
3. Agreeableness	.32*	.31*	1				
4. Neuroticism	.26	-.10	-.10	1			
5. Length	-.02	-.05	.08	-.40**	1		
6. Depth	.33*	-.14	-.10	.27*	-.01	1	
7. Breadth	-.37**	.15	-.03	-.19	.00	-.82**	1

Note: * $p < .05$, ** $p < .01$

Discussion

The goal of this investigation was to explore the concept of distress disclosure and the factors that could contribute to variation in its practice. This was accomplished through asking participants to complete personality measures and to engage in a disclosure task. The three dimensions of distress disclosure, length, depth or emotional intimacy, and breadth, were measured and analyzed in relation to several other factors: extraversion and other personality factors from the Five Factor Model, gender, general tendency to disclose, and the disclosure target to whom each person was directed to disclose. The four most important findings were an inverse correlation between extraversion and disclosure depth; a relationship between disclosure length and gender, such that males tended to have longer disclosures than females; a positive correlation between openness and depth and an inverse one between openness and breadth; and neuroticism correlating positively with depth but negatively with length.

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The study hypothesized that individuals who rate high in extraversion and who are female would also rate more highly on all dimensions of disclosure; that those who tend to use disclosure often as a coping strategy would engage in deeper disclosure regardless of the entity to whom they were instructed to disclose; and that the length, depth, and breadth of disclosure would be greatest in those instructed to confide in a best friend and lowest in those instructed to confide in a professor. For the most part, these hypotheses were not supported by the findings in this study. Exploratory analyses of variables about which no specific hypotheses were made produced some significant and interesting findings.

In Hypothesis 1, extraversion was expected to be positively associated with each dimension of distress disclosure because of the wider support network and outgoing nature that extraverted individuals tend to have (McHugh & Lawlor, 2012). However, extraversion was found to be inversely correlated with depth and was not significantly related to breadth or to length. This result was unexpected. It indicates that a wider social network and increased amount of social support, which tends to be associated with higher levels of extraversion (Bergeman, Plomin, Pedersen, McClearn, & Nesselroade, 1990), may not necessarily result in utilization of that social support, even if it is present (Swickert et al., 2002). This indicates that extraverts, while potentially having more people in their social network, do not necessarily engage in deeper disclosure than introverts. Having a larger social network does not imply having a closer or more intimate one.

Though extraversion did not show the predicted correlations with the three

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dimensions of distress disclosure, this does not entirely contradict the findings in the current distress disclosure literature. In the majority of studies under consideration by Stokes (1987) in a meta-analysis, extraversion is cited as having a strong association with the tendency to disclose. This general conclusion is supported by the findings of the current study; extraversion was found to be positively correlated with high scores on the Distress Disclosure Index, which measures that exact tendency. It appears that while extraversion can be fairly reliable as a predictor of one's general tendency to disclose, it is not as effective at predicting an individual's length, depth, and breadth in instances of doing so.

The second major finding of the current study had to do with gender. Gender was significantly correlated with length of disclosure, but not in the direction predicted by Hypothesis 2. Male participants in the present investigation actually tended to have longer disclosures than did females. This seems to go against the common social perception that men do not spend much time confiding in others, but it is not without precedent in the literature. Derlega, Winstead, Wong, & Hunter (1985) found that when males and females are placed into similar situations in which disclosure is an option or encouraged, men can disclose as much as women. However, the bulk of the literature does indicate that women tend to disclose more than men (Derlega, Winstead, & Greene, 2008; Dindia & Allen, 1992). It is important to note that there are a number of different dimensions to disclosure, and it may be that this construct better describes the frequency or likelihood of disclosure itself, rather than the length of the disclosure once it is decided upon. In addition, in the current study, all participants disclosed; there were no choices

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not to disclose. The lack of a significant correlation between gender and depth may indicate that women and men do not differ strongly in their emotionality when they do disclose, a finding that contradicts common social perceptions about the emotionality of men versus that of women.

Openness was found to be positively correlated with depth. Though this relationship was not predicted, it would make sense that openness to experience may also generalize to openness with one's emotions. This personality factor also correlated with breadth, but inversely. Together, these findings indicate that being open may indicate greater willingness to share one's feelings in depth, but it does not necessarily mean that individuals who are higher in openness are more likely to more thoroughly explain the situation at hand to a disclosure target. Emotional openness has been found to be a strong indicator of one's willingness to share one's problems with others in the hopes of receiving help (Komiya, Good, & Sherrod, 2000).

Neuroticism was also found to be positively correlated with depth, a relationship which was not predicted. The correlation may be explained by the tendency of individuals who are high in neuroticism having more anxiety, self-consciousness, and even vulnerability (Costa & McCrae, 1992); perhaps these qualities contribute to this greater willingness to confront and express one's emotions. Neuroticism was also inversely correlated with length. The anxiety and tension of these individuals may serve to shorten the length of their disclosures. In much of the existing literature, neuroticism is found to be correlated with self-concealment, rather than with disclosure (Larson & Chastain, 1990; Wismeijer & van Assen, 2008), but again, participants were all asked to

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disclose in the current study, so the decision to disclose was not measured. It may be that people who score highly in neuroticism are less likely to disclose overall, but no such correlation with the Distress Disclosure Index scores was found in the current study. Neuroticism, however, does appear to be a predictor of the depth of distress disclosure when individuals choose to or are asked to disclose.

Scores on the Distress Disclosure Index itself were not significantly correlated with length, depth, or breadth. Hypothesis 3 had predicted that individuals who scored highly on the Distress Disclosure Index would demonstrate greater depth when asked to disclose, but this hypothesis was not supported. It may be that one's general tendency to disclose relates not to the dimensions of each instance of distress disclosure, but to the choice to disclose at all. It could be argued that this act of disclosing itself involves a certain amount of emotional intimacy, since by definition distress disclosure is the volunteering of negative personal experiences to another (Kahn & Hessling, 2001). However, individuals who have similar attitudes and tendencies when it comes to distress disclosure can still vary widely when it comes to questions of the length, depth, and breadth of those instances of disclosure (Chelune, 1976). Therefore, it seems that Distress Disclosure Index scores, while useful as predictors of those individuals' likelihood to choose to disclose, cannot reliably be used to predict how emotionally intimate, explanatory, or long or short the disclosures of those individuals will be.

Finally, the identity of the person to whom individuals were directed to disclose showed no significant association with the length, depth, or breadth of their subsequent disclosure. Hypothesis 4 had suggested that the disclosure target of best friend would

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result in higher scores for all three dimensions and that people who had a professor as their disclosure target would score the lowest on the three dimensions, but this hypothesis was not supported. This may be because the potential factors related to the disclosure target are too many and too variable in individual relationships to be generalized about in such an unspecific assignment of target category.

These factors include the closeness of the relationship between the person who is disclosing and their disclosure target; people are far more likely to disclose to those with whom they already have an intimate personal relationship (Omarzu, 2000), but individual people vary on their closeness to their friends, to their parents, and to their professors. This level of closeness can also vary depending on which friend, which parent, or which professor is hearing the disclosure. A second factor impacting the relationship between a discloser and their disclosure target would be the existence of an imbalance of power between the two. This dynamic could have an inhibiting effect; if the individual fears retribution from, feels inferior to, or does not feel comfortable enough to confide in someone who is in a position of higher power or status, he or she is not likely to choose to disclose to that superior disclosure target. A power imbalance could act in the opposite direction as well, however: if an individual discloses to someone in a position of power, that person may have a heightened ability to offer help with the situation. Obtaining tangible help is more often than not a common and important goal for those disclosing distress (Greenland, Scourfield, Maxwell, Prior, & Scourfield, 2009; Omarzu, 2000). Therefore, predicting a person's disclosure based upon the target to whom he or she is

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disclosing may not be possible based upon the category of relationship alone, or even on the power dynamic within that relationship.

Another factor at play in determining the dimensions of distress disclosure to a particular target is that person's appropriateness for the specific issue at hand. For instance, it might seem intuitive that one would be more likely to disclose about academic topics to a professor who could help with the classwork, or to a friend about peer relationship issues about which he or she could offer advice. In the current study, however, academic concerns accounted for 11 of the 20 disclosures to a best friend (or 55%), 9 of 17 disclosures to a parent (53%), and 9 of 16 disclosures to a professor (56%). The proportion of academic to personal disclosures in the professor category is only very slightly greater than that of the other two categories. It may be that students can go to professors about academics for extra explanation or advice but can also receive that guidance or similar help from their fellow student peers or from their parents. Suitability or relevance to the particular issue does not appear to be a reliable indicator of the person to whom an individual confides a problem. The remaining, nonacademic disclosures varied from relationship issues, to moving houses, to strained friendships, to a parent's divorce, and none of these showed any tendency toward a pattern in disclosure target.

Individual relationships with potential disclosure targets and the conditions of individual situations are very complicated. Another explanation for the lack of significant findings related to the directed disclosure target, however, could be that the direction itself was simply ineffective or insufficient to draw out any differences that do exist. A few disclosure transcripts included explicit references to the target to whom they

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had been told to disclose, such as beginning by addressing a specific person or acknowledging the parents, in one case, as a source of support in the situation. Most, however, had no such reference. This, along with the lack of significant findings, may have been an indicator that the method of simply instructing the participants to speak as if they were addressing a best friend, a parent, or a professor, respectively, was not efficacious in drawing out any differences that may exist in instances of disclosure to those targets in real-life situations. It is possible that one's disclosure target does have a powerful effect on the disclosure itself, and that the methodology used in the current study simply did not capture it.

Limitations

The limitations for the current study can be classified into two categories: issues with data collection and sampling, and issues with methodology. The first set of problems, those pertaining to sampling in the data collection, included convenience sampling, potentially unrepresentative sampling, and having to omit some data. All participants were recruited from Bucknell University, a small liberal arts college in Pennsylvania, which qualified the group as a sample of convenience. Participants were from various parts of the country, but taking a sample entirely from a college campus eliminates much diversity in age, life experiences, and in many cases, socioeconomic status. This is not to say that none of the participants varied on any of these factors; they certainly have and do, but vast subgroups of the human population are not represented equally or at all in this study of college students. The second problem, potentially unrepresentative sampling, stems in part from the first. The accuracy of generalizing

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statements made based upon a sampling of undergraduates at one small university to the greater population is potentially not high. Adding to this issue is the fact that most participants were white; minority groups were represented in the study but not nearly in equal numbers. The third issue, having to omit data from some participants, exacerbated this discrepancy. Eight audio recordings were not intelligible enough to be transcribed, so that data was unusable. However, the reason for the lack of clarity was that these data came from students for whom English is a second language. This means that several participants who could have increased the diversity of the study were instead eliminated because of the inability to clearly understand their disclosure samples. In addition, all eight of the omitted samples happened to be from males, which increased the number gap between female participants and male ones.

The second set of limitations of the current study has to do with its methodology. Data for this study was collected through self-reporting, which cannot be objectively verified. This is common to many studies in the field of psychology but is still worth mentioning. A potentially ineffective method of instructing the participants to direct their disclosures at particular audiences is another limitation. It is still unclear whether such a general specification could have yielded an actual effect, even if there was a better way in which to do so, but the inefficacy of simply telling participants to imagine that they are addressing a member of one of those three groups (of best friends, parents, and professors, respectively) seems rather apparent. This limited the ability of the study to fully examine the concepts it was designed to investigate.

Conclusions

The current study investigated the three dimensions of distress disclosure, length, depth, and breadth, and potential correlations and relationships that those dimensions may have with an individual's personality, gender, general tendency to disclose, and disclosure target. It found that potential predictors of depth, or emotional intimacy, of the disclosure are openness and neuroticism. Both of those personality factors were associated with greater depth of disclosure. Extraversion, on the other hand, was associated with less depth of disclosure. The next dimension of distress disclosure, breadth, decreased with higher openness. Neuroticism was associated with shorter lengths of disclosure, while males tended to disclose for longer periods than women.

While these associations may enable the length, depth, and breadth of distress disclosure of an individual to be predicted to an extent, the findings of this study would support a conclusion that perhaps the general tendency toward distress disclosure, rather than its dimensions, is far easier to predict and draw generalizable statements about. The majority of the existing literature focuses its concern there, and individual variation in relationship and situation depends on many complex factors. However, this difficulty does not mean that there is no value in examining the depth, breadth, and length of a disclosure. Finding the right levels of each of those dimensions so that the disclosure itself is helpful is an important consideration for those who are deciding to disclose about distress. Learning as much as possible about how to encourage and facilitate that in individuals for whom disclosure would be beneficial is equally important for psychologists.

Future Directions

Further research on the topic of distress disclosure has many possible directions to take. Directly moving forward from the current study, finding a more effective way to capture any relationship that exists between distress disclosure and the disclosure target would be a beneficial next step. This could be done by asking participants to recall a specific instance of disclosure to a person who falls into the given category, which would eliminate the element of pretending brought forth by having to respond to a prompt in an empty room. The element of real-life interaction could also be facilitated by asking participants to come in pairs so that they can disclose to an actual person during the study. It is not certain whether or not a generalizable relationship would emerge, but a more effective measure of this facet of distress disclosure would help to determine that, and choice of disclosure target has been found to have an effect that differs by gender (Harrison et al., 1995). Investigating which would be the most helpful category of disclosure target for a particular person or demographic could go a long way to guiding them toward choosing a person from that category and opening up to them.

One alteration that could account for a good amount of the individual variation in disclosure samples would be to conduct the study as a within-subjects design, rather than as the between-subjects design carried out in the current study. Allowing each participant to disclose three times, once to a best friend, once to a parent, and once to a professor, rather than having each disclose to only one of those categories, may reveal specific differences between those groups by controlling for some of the variation that exists between the individuals. As it stands, it is possible that the variation in disclosure

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samples seen in the present study was caused by those differences between individuals, rather than by differences due to a change in disclosure target. Changing the study to a within-subjects design would have disadvantages alongside that benefit, however; increasing the time required of student participants can lower their willingness to take part in a study, and asking them to disclose three separate times could lead to fatigue. It also may be difficult for them to differentiate their distress disclosure each time, since they would be in the same place and not physically with any of the disclosure targets. One potential way to minimize that difficulty would be to place the participants in a different setting for each disclosure target. These representative settings could include a casual café for the best friend condition, perhaps the individual's room on a phone for the parent, and a professor's office for the professor condition. There would be strong benefits to changing the study to a within-subjects design, but the complications that would arise formed the basis of the decision to structure the current study as a between-subjects design.

Another interesting direction in which to take this course of study would be an examination of the relationship between distress disclosure and age. In the existing literature, there are studies on disclosure from a variety of ages, from adolescents (Schonert-Reichl & Muller, 1996), to college students (Komiya, Good, & Sherrod, 2000), to middle-aged adults (Pennebaker & O'Heeron, 1984), to older adults (Antonucci & Akiyama, 1987). A study examining various age groups and comparing them or a meta-analysis of the studies by the age group they examined would both be viable approaches to this question.

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A key focus for future research in distress disclosure is how to encourage these behaviors in people who find them difficult or could strongly benefit from engaging in disclosure. Deciding to disclose and what to say if one does can be very difficult, especially if traumatic or otherwise seriously upsetting experiences are involved. However, distress disclosure is an important way to process those experiences and seek social support to aid in dealing with them (Coates & Winston, 1987; Swickert et al., 2002). In addition, it is correlated with increased self-esteem, lowered stress levels, an increased sense of well-being, and other physical and psychological benefits (Gore-Felton, Koopman, Power, Israelski, & Duran, 2008; Kahn & Hessling, 2001; Pennebaker, Kiecolt-Glaser, & Glaser, 1988). As such, distress disclosure is commonly considered to be a vital psychological tool for improving mental health, and its absence is sometimes considered to be a contributing factor in increased suicide rates (Greenland et al., 2009). Taking all of this into consideration, distress disclosure is a concept well worth investigating further and trying to find practical ways through which to encourage it. In some cases, it could even save lives.

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Appendix

Bibliographic Information

1. Age _____

2. _____ Male _____ Female

3. Year in school 1 2 3 4 (circle one)

4. Ethnicity: _____ Caucasian _____ Black or African American
 _____ Asian American _____ Hispanic
 _____ Native American
 _____ Other (please describe) _____

5. Religious: _____ Roman Catholic _____ Protestant/Evangelical Christian
 Affiliation _____ Muslim _____ Hindu
 _____ Buddhist _____ Agnostic
 _____ Atheist _____ Other (please describe) _____

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DISTRESS DISCLOSURE INDEX

Please read each statement carefully. For each statement circle the appropriate number.

SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree

	SD	D	N	A	SA
1. When I feel upset, I usually confide in my friends.	1	2	3	4	5
2. I prefer not to talk about my problems.	1	2	3	4	5
3. When something unpleasant happens to me, I often look for someone to talk to.	1	2	3	4	5
4. I typically don't discuss things that upset me.	1	2	3	4	5
5. When I feel depressed or sad, I tend to keep those feelings to myself.	1	2	3	4	5
6. I try to find people to talk with about my problems.	1	2	3	4	5
7. When I am in a bad mood, I talk about it with my friends.	1	2	3	4	5
8. If I have a bad day, the last thing I want to do is talk about it.	1	2	3	4	5
9. I rarely look for people to talk with when I am having a problem.	1	2	3	4	5
10. When I'm distressed I don't tell anyone.	1	2	3	4	5
11. I usually seek out someone to talk to when I am in a bad mood.	1	2	3	4	5
12. I am willing to tell others my distressing thoughts.	1	2	3	4	5

Note: Reverse score items 2, 4, 5, 8, 9, 10.

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NEO

Please read each statement carefully. For each statement circle the appropriate number.

SD = strongly disagree; D = disagree; N = neutral; A = agree; SA = strongly agree

	SD	D	N	A	SA
1. I am not a worrier		2	3	4	5
2. I like to have a lot of people around me	1	2	3	4	5
3. I don't like to waste my time daydreaming.	1	2	3	4	5
4. I try to be courteous to everyone I meet.	1	2	1	4	5
5. I keep my belongings clean and neat.	1	2	3	4	5
6. I often feel inferior to others.	1	2	3	4	5
7. I laugh easily.	1	2	3	4	5
8. Once I find the right way to do something, I stick to it.	1	2	3	4	5
9. I often get into arguments with my family and co-workers.	1	2	3	4	5
10. I'm pretty good about pacing myself so that I can get things done on time.	1	2	3	4	5
11. When I'm under a great deal of stress, sometimes I feel like I'm going to pieces.	1	2	3	4	5
12. I don't consider myself especially "light-hearted".	1	2	3	4	5
13. I am intrigued by the patterns I find in art and nature.	1	2	3	4	5
14. Some people think I'm selfish and egotistical.	1	2	3	4	5

Distress Disclosure and Personality

15. I'm not a very methodical person.	1	2	3	4	5
16. I rarely feel lonely or blue.	1	2	3	4	5
17. I really enjoy talking to people.	1	2	3	4	5
18. I believe that letting students hear controversial speakers can only confuse and mislead them.	1	2	3	4	5
19. I would rather cooperate with others than compete with them. . . .	1	2	3	4	5
20. I try to perform all the tasks assigned to me conscientiously. . . .	1	2	3	4	5
21. I often feel tense and jittery.	1	2	3	4	5
22. I like to be where the action is.	1	2	3	4	5
23. Poetry has little or no effect on me.	1	2	3	4	5
24. I tend to be cynical and skeptical of others.	1	2	3	4	5
25. I have a clear set of goals and work toward them in an orderly fashion.	1	2	3	4	5
26. Sometimes I feel completely worthless.	1	2	3	4	5
27. I usually prefer to do things alone.	1	2	3	4	5
28. I often try new and foreign foods.	1	2	3	4	5
29. I believe that most people will take advantage of you if you let them.	1	2	3	4	5
30. I waste a lot of time before settling down to work.	1	2	3	4	5
31. I rarely feel fearful or anxious.	1	2	3	4	5

Distress Disclosure and Personality

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|---|---|---|---|---|---|
| 32. I often feel as if I'm bursting with energy. | 1 | 2 | 3 | 4 | 5 |
| 33. I seldom notice the moods or feelings that different environments produce. | 1 | 2 | 3 | 4 | 5 |
| 34. Most people I know like me. | 1 | 2 | 3 | 4 | 5 |
| 35. I work hard to accomplish my goals. | 1 | 2 | 3 | 4 | 5 |
| 36. I often get angry at the way people treat me. | 1 | 2 | 3 | 4 | 5 |
| 37. I am a cheerful, high-spirited person. | 1 | 2 | 3 | 4 | 5 |
| 38. I believe we should look to our religious authorities for decisions on moral issues. | 1 | 2 | 3 | 4 | 5 |
| 39. Some people think of me as cold and calculating. | 1 | 2 | 3 | 4 | 5 |
| 40. When I make a commitment, I can always be counted on to follow through. | | | | | |
| 41. Too often, when things go wrong, I get discouraged and feel like giving up. | 1 | 2 | 3 | 4 | 5 |
| 42. I am not a cheerful optimist. | 1 | 2 | 3 | 4 | 5 |
| 43. Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement. | 1 | 2 | 3 | 4 | 5 |
| 44. I am hard-headed and tough-minded in my attitudes. | 1 | 2 | 3 | 4 | 5 |
| 45. Sometimes I'm not as dependable as I should be. | 1 | 2 | 3 | 4 | 5 |
| 46. I am seldom sad or depressed. | 1 | 2 | 3 | 4 | 5 |
| 47. My life is fast-paced. | 1 | 2 | 3 | 4 | 5 |

Distress Disclosure and Personality

48. I have little interest in speculating on the nature of the universe or the human condition.	1	2	3	4	5
49. I generally try to be thoughtful and considerate.	1	2	3	4	5
50. I am a productive person that always gets the job done.	1	2	3	4	5
51. I often feel helpless and want someone else to solve my problems.	1	2	3	4	5
52. I am a very active person.	1	2	3	4	5
53. I have a lot of intellectual curiosity.	1	2	3	4	5
54. If I don't like people, I let them know it.	1	2	3	4	5
55. I never seem to be able to get organized.	1	2	3	4	5
56. At times I have been so ashamed I just wanted to hide.	1	2	3	4	5
57. I would rather go my own way than be a leader of others.	1	2	3	4	5
58. I often enjoy playing with theories or abstract ideas.	1	2	3	4	5
59. If necessary, I am willing to manipulate people to get what I want.	1	2	3	4	5
60. I strive for excellence in everything I do.	1	2	3	4	5

Enter items:

SD = 1; D = 2; N = 3; A = 4; SA = 5

*REVERSE SCORING ITEMS.

RECODE n1 n16 n31 n46 n12 n27 n42 n57 n3 n8 n18 n23 n33 n38 n48 n9 n14 n24
n29 n39 n44 n54 n59 n15 n30 n45 n55 (5=1)(4=2)(3=3)(2=4)(1=5).

COMPUTE NEURO = n1+n6+n11+n16+n21+n26+n31+n36+n41+n46+n51+n56.
COMPUTE EXTRA = n2+n7+n12+n17+n22+n27+n32+n37+n42+n47+n52+n57.

Distress Disclosure and Personality

COMPUTE OPEN = n3+n8+n13+n18+n23+n28+n33+n38+n43+n48+n53+n58.
 COMPUTE AGREE = n4+n9+n14+n19+n24+n29+n34+n39+n44+n49+n54+n59.
 COMPUTE CONSC = n5+n10+n15+n20+n25+n30+n35+n40+n45+n50+n55+n60.

Reliability variables = n1 to n60/

scale (neuro) n1 n6 n11 n16 n21 n26 n31 n36 n41 n46 n51 n56/

scale (extra) n2 n7 n12 n17 n22 n27 n32 n37 n42 n47 n52 n57/

scale (open) n3 n8 n13 n18 n23 n28 n33 n38 n43 n48 n53 n58.

Reliability variables = n1 to n60/

scale (agree) n4 n9 n14 n19 n24 n29 n34 n39 n44 n49 n54 n59/

scale (consc) n5 n10 n15 n20 n25 n30 n35 n40 n45 n50 n55 n60/

summary corr tot.