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**A correlation study of self-compassion,  
self-forgiveness and eating disorder  
behaviour among university females.**

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Dissertation submitted (article format) in partial fulfilment  
of the requirements for the degree  
Magister Artium in Clinical Psychology  
at the Potchefstroom Campus of the North-West University

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*“Aim not for what you are, but for what you could be”~ Lucas Hellmer*

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## PERMISSION STATEMENT



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## LETTER OF CONSENT

I, the co-author, hereby give consent that Cindy Swanepoel may submit the following manuscript for purposes of a dissertation (article format):

**A correlation study of self-compassion, self-forgiveness and eating disorder behaviour among university females**

It may also be submitted to Health SA Gesondheid for publication.

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Dr. D.K. Kirsten (PhD)

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## INTENDED JOURNAL AND GUIDELINES

INTENDED JOURNAL FOR PUBLICATION: Health SA Gesondheid

### GUIDELINES FOR AUTHORS

1. Manuscript should be prepared in accordance to the journals requirements.

The manuscript layout is as follows: Margins are set at 2.5 cm for the top and bottom, and 2 cm for the left and right margins. Times New Roman font with a font size of 12 point is used, with manuscript spacing of 1.5. Text arranged by left justification.

2. The **title page** should include:

- a) A title which is informative but concise, written in bold small and capital letters in font size 14 point and centred

- b) It should include the full first name and surname of each authors, as well as the name of the department and the university. The email address, postal and phone number of the corresponding author should be included.

3. The title page should be followed by an abstract of 200 words. This should concisely state the scope of work, principal findings, objective of the study; the population size, sampling strategy and the response rate; the main statistical procedure used for analyzing the data; and the most significant results of the study.
4. The manuscript should also include an Afrikaans abstract of the article, following the same format and structure of the English abstract.
5. Keywords should be indicated, using five words not already included in the title, separated by semi-colons.
6. Manuscripts should not exceed 25 pages (between 3500-7000 words) excluding tables, figures and the list of references.
7. The manuscript contents should include five sections, namely introduction, research design, results, discussion and references. All these first-level headings appear in bold capital letters and are centred.
8. The introductory section contains the following elements: key focus of the study, background or context of the study, trends from research literature, research objectives, core research problem and specific objectives, and the potential value-add of the study.
9. The research design section should contain the following sub-level headings, research approach and research methods. These appear in lower case, bold and are flushed with the margin.
10. The research approach section is a brief description of the approach followed. It explains the tradition (quantitative and qualitative), the design chosen, the type of data that was used and

which approach was used in the data analyses. This section is not similar to the description of the research procedure.

11. The research methods section has four sub-sections that are used to explain the research method followed in the study. These headings are flushed against the margin, are in italics and not bold.
  - a) Research population and sampling is a description of the target population, sampling frame and the sampling procedure. The following is reported: sample size, a summary table and discussion of the research participants in terms of their biographical details.
  - b) Research measuring instruments describes the measures used in the study or the way in which constructs were operationalised. Heading is in italics and underlined, and are directly followed in the same line by a sentence. Clear reference of the origin of the scale and the basic scale design. This section should also report on the reliability and validity of the scale, as well as the rationale for using this scale in the study.
  - c) Research procedure sets out the procedure used for the collection of the data, specific reference to the validity and reliability of the method. Specific attention should be given to the clarity of the research procedure for possible replication purposes.
  - d) Data collection and statistical analysis section includes a brief mention of the statistical procedures employed in the analysis of data.
12. Results heading appear in bold capital letters and is centred. It includes an overview of the descriptive statistics and provides the reliability statistics for each scale. Results should be presented as concisely as possible. Tables and figures should be used selectively.
13. Tables and figures are presented on a separate page after the reference section and appear in the same numerical order as they appear in the text. The position of tables or figures are indicated in the text by <include Table 1 here>.
14. Discussion heading appears in capital letters, in bold and centred. This section contains the following: restate the main objective of the study, reaffirm the importance of the study by restating its main contributions, summarise the results in relation to each stated research objective, link the findings back to the literature and to the results reported by other researchers, provide explanations for unexpected results, provide the conclusion and recommendations, point out the possible limitations of the study and provide suggestions for future research. Second and third-level headings may be used.

15. **References** should follow Harvard style as indicated in Health SA Gesondheid guidelines.
- a) References begin on a separate page. Note that the second and subsequent lines are indented.
  - b) References cited in the text should all be included in the list at the end of the paper.
  - c) Full references at the end of the paper arranged alphabetically by surname.
  - d) In text, journals are referenced by (Brown 2008).
  - e) If the same author appears two times or more in the same paragraph, the year is omitted from the second or more reference.
  - f) In text, books are referenced as (Brown 2008).
  - g) In reference list, journals are referenced by: Budd, G., 2007, 'Disordered eating: young women's search for control and connection', *Journal of Child and Adolescent Psychiatric Nursing* 20(2), 96-106.
  - h) In reference list, books are referenced by: Black, T.R., 1999, *Quantitative research design for the social sciences*, Sage Publications, UK.
  - i) When referencing books only the first letter of the title and subtitle is capitalised.
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  - k) If the same author publishes more than one article in the same year, and more than one is references, these are distinguished in order of publication using a lower-case alphabetical suffix after the year of publication (e.g. 2008a, 2008b, etc). The same suffix is used to distinguish that reference for the in-text citations.
  - l) When there are multiple authors, the sequence of the author's surnames as in publication is used.

## SUMMARY

Recently protective factors associated with eating disorders have acquired more focus within the field of psychology. Self-compassion and self-forgiveness have previously been related to a variety of beneficial psychological outcomes. It has been suggested that these may serve as protective factors against the development of eating disorders. The purpose of this study was to determine whether significant correlations exist between the following constructs in university female students: on the one hand, self-forgiveness and self-compassion, with its associated components, namely mindfulness, self-kindness, common humanity, and on the other hand eating disorder predictors, namely body dissatisfaction, a drive for thinness and low self-esteem. Body dissatisfaction, a drive for thinness and low self-esteem have been identified as the most predictive factors associated with the onset of eating disorders.

For this study, a convenience sample of 122 female students at the Potchefstroom Campus of the North-West University, ranging between the ages of 18 and 25 ( $M$  age = 20.42 years,  $SD$  = 1.62) completed the following questionnaires: a biographical questionnaire; The Self-Compassion Scale; The Eating Disorder Inventory 3, and The Heartland Forgiveness Scale. Body Mass Indices (BMIs) were also calculated, but only as indicative of range, and not as determining variables. In this study participants fell predominantly within the normal BMI range ( $M$  = 23.11,  $SD$  = 3.24). Statistical analysis calculated Pearson correlation coefficients between the variables, indicating the nature and strength of the relationships between variables. The reliability of the measurements were determined by Cronbach alphas, and in this study the reliability was found to be good.

This study found that self-compassion and self-forgiveness significantly correlated negatively of a large effect with eating disorder predictors. Self-compassion especially had significant negative correlates with body dissatisfaction, indicating that individuals with higher self-compassion experienced lower body dissatisfaction. Self-forgiveness showed highly significant negative correlations with low self-esteem, indicating that individuals engaging in self-forgiveness had higher self-esteems. Both self-compassion and self-forgiveness showed negative correlations of medium significance with the drive for thinness, indicating that individuals engaging in self-compassionate and self-forgiving behaviours had somewhat less of a drive for thinness than individuals not engaging in such behaviours.

The results therefore showed that self-compassion, with its associated constructs (mindfulness, self-kindness and common humanity), as well as self-forgiveness, had an inverse effect on the above-

mentioned eating disorder predictors, namely body dissatisfaction, a drive for thinness and low self-esteem. This could allow for future regression studies to identify the above-mentioned as protective factors, which could then inform future prevention programmes, especially within the South African population.

## OPSOMMING

Onlangs het beskermende faktore wat by eetversteurings 'n rol speel meer aandag bekom. Self-deernis en self-vergifnis is voorheen in verband gebring met 'n verskeidenheid voordelige psigologiese uitkomst. Daar is gesuggereer dat self-deernis en self-vergifnis moontlik as beskermende faktore teen die ontwikkeling van eetversteurings kan dien. Die doel van hierdie studie was om te bepaal of daar beduidende korrelasies bestaan tussen die volgende konstrunkte: self-vergifnis (“self-forgiveness”) en self-deernis (“self-compassion”), met die verwante komponente bedagtheid (“mindfulness”), self-vriendelikheid (“self-kindness”), algemeenmenslikheid (“common humanity”) aan die een kant, en voorspellers van eetversteuring aan die ander kant, naamlik liggaamsontevredenheid (“body dissatisfaction”), 'n dryfveer vir maerwees (“drive for thinness”), en lae selfagting (“low self-esteem”). Liggaamsontevredenheid, 'n dryfveer vir maerwees en lae selfagting is uitgelig as die belangrikste voorspellers in die aanvang van eetversteurings.

'n Gerieflikheidsteekproef van 122 vroulike studente op die Potchefstroomkampus van die Noordwes-Universiteit, met ouderdomme van tussen 18 en 25 ( $M = 20.42$  jaar,  $SD = 1.62$ ), het die volgende vraelyste (in Engels) voltooi: 'n self-opgestelde biografiese vraelys, die “Self-Compassion Scale”; die “Eating Disorder Inventory 3”; en die “Heartland Forgiveness Scale”. Liggaamsmassaindekse (sogenaamde BMI's) is ook bereken – maar bloot as kategorie, en nie as bepalende veranderlikes nie. Deelnemers het oorwegend binne die BMI-kategorie van “normaal” geval ( $M = 23.11$ ,  $SD = 3.24$ ). Statistiese ontleding met behulp van Pearson se korrelasiekoëffisiënte tussen die veranderlikes het die aard en sterkte van die verhoudings tussen die veranderlikes aangedui. Die betroubaarheid van die metings in hierdie studie is aangedui as goed met behulp van Cronbach alfas.

Daar is bevind dat self-deernis en self-vergifnis beduidend negatief gekorreleer het en van groot effek met voorspellers van eetversteurings. Self-deernis veral het beduidende negatiewe korrelate met liggaamsontevredenheid getoon. Self-vergifnis het hoogs beduidende negatiewe korrelasies getoon met lae selfagting, wat daarop dui dat individue wat self-vergewend is, hoër selfagting het. Beide self-deernis en self-vergifnis het negatiewe korrelate van medium beduidendheid getoon met 'n dryfveer vir maerwees, wat daarop dui dat individue wat self-deernis en self-vergewende gedrag openbaar, ietwat minder van 'n dryfveer vir maerwees het as ander. Die resultate het dus getoon dat self-deernis, met die verwante konstrunkte (bedagtheid, self-vriendelikheid en algemeenmenslikheid), asook self-vergifnis, 'n omgekeerde effek op die bogenoemde voorspellers

van eetversteurings (liggaamsontevredenheid, 'n dryfveer vir maerwees en lae selfagting) blyk te gehad het. Dit kan heenwys na toekomstige navorsing om die genoemde beskermende faktore – waarop toekomstige voorkomingsprogramme gebaseer kan word – te identifiseer, veral binne die Suid-Afrikaanse bevolking.

**A correlation study of self-compassion, self-forgiveness and eating disorder  
behaviour among university females**

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**Keywords:** body dissatisfaction; drive for thinness; mindfulness; protective factors; risk factors; self-forgiveness; self-compassion

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**Abstract**

The purpose of this study was to determine whether significant correlations exist between the following constructs in university female students: on the one hand, self-forgiveness and self-compassion, with its associated components, namely mindfulness, self-kindness, common humanity, and on the other eating disorder predictors, namely body dissatisfaction, a drive for thinness and low self-esteem. For this study, a convenience sample of 122 female students at the Potchefstroom campus of the North-West University, ranging between the ages of 18 and 25 ( $M = 20.42$  years,  $SD = 1.62$ ) completed the following questionnaires: Self-Compassion Scale; Eating Disorder Inventory 3; Heartland Forgiveness Scale, and Body Mass Indices (BMI's). The response rate was indicated at 69%. In this study participants were predominantly within the normal BMI range ( $M = 23.11$ ,  $SD = 3.24$ ). Good reliability of the measurements were determined by Cronbach alphas. Pearson correlation coefficients indicated the nature and strength of the relationships between variables. This study found that self-forgiveness and self-compassion correlated negatively and had an inverse effect on the above-mentioned eating disorder predictors. This could allow for future regression studies to identify the above-mentioned as protective factors, which could then inform future prevention programmes, especially within the South African population.

## **Opsomming**

Die doel van hierdie studie was om te bepaal of daar beduidende korrelasie bestaan tussen die volgende konstrakte: self-vergifnis (“self-forgiveness”) en self-deernis (“self-compassion”), met die verwante komponente bedagtheid (“mindfulness”), self-vriendelikheid (“self-kindness”), algemeenmenslikheid (“common humanity”) aan die een kant, en voorspellers van eetversteuring aan die ander kant, naamlik liggaamsontevredenheid (“body dissatisfaction”), ’n dryfveer vir maerwees (“drive for thinness”), en lae selfagting (“low self-esteem”). ’n Gerieflikheidsteekproef van 122 vroulike studente op die Potchefstroom-kampus van die Noordwes-Universiteit, met ouderdomme van tussen 18 en 25 (Gemiddelde ouderdom = 20.42 jaar, Standaardafwyking = 1.62), het die volgende vraelyste (in Engels) voltooi: die “Self-Compassion Scale”; die “Eating Disorder Inventory 3”; die “Heartland Forgiveness Scale”; en die Liggaamsmassa-indekse (sogenaamde BMI’s). Deelnemers het oorwegend binne die kategorie van “normaal” geval (Gemiddelde BMI = 23.11, Standaardafwyking = 3.24). Goeie betroubaarheid van die metings is met Cronbach alfas vasgestel. Pearson se korrelasiekoëffisiënte is bepaal om die aard en sterkte van die verhoudings tussen die veranderlikes aan te dui. Daar is bevind dat self-vergifnis en self-deernis negatief gekorreleer en ’n omgekeerde effek op die bogenoemde voorspellers van eetversteurings blyk te gehad het. Dit kan heenwys na toekomstige navorsing om die genoemde beskermende faktore – waarop toekomstige voorkomingsprogramme gebaseer kan word – te identifiseer, veral binne die Suid-Afrikaanse bevolking.

## INTRODUCTION

It is believed that today's society glorifies an unattainable standard of thinness and stigmatises the inability to reach it. This has resulted in the occurrence of a 'silent epidemic' of dysfunctional eating behaviours and unhealthy weight loss practices (Holston & Cashwell 2000; Levitt 2003; Polivy & Herman 2002; Viernes, Zaidan, Dorvlo, Kayano, Yoishiuchi, Kumano, Kuboki & Al-Adawi 2006). It has been said that 19-22% of multicultural samples of South African adolescents are at high risk for developing eating disorders, and that 30% of college students experience various degrees of eating-disordered behaviour (Caradas, Lambert & Charlton 2001; Holston & Cashwell 2000; Szabo 1999). Disordered eating behaviour peaks from adolescence through college years, and evidence suggests that predictive factors, including a preoccupation with body image and weight loss behaviour, increase the risk of disordered eating symptoms persisting or developing into full-scale eating disorders (Budd 2007; Fairburn & Harrison 2003). The identification of predictive factors such as body dissatisfaction, a drive for thinness and low self-esteem allows for increased insight into eating disorder symptoms and the risk of developing full-scale eating disorders (Fairburn & Harrison 2003). However, identification of risk and predictive factors alone has failed to prevent the development of eating disorders, and insight into factors which protect individuals against the development of eating disorders are crucial for greater understanding of the phenomenon of eating disorders (Steck, Abrams & Phelps 2004). This study assumes and wishes to show that self-compassion and self-kindness, with its associated constructs, namely mindfulness, self-kindness and common humanity, could serve as such protective factors. Our understanding of predictive factors in general should inform our knowledge of eating disorder protective factors (Steck, Abrams & Phelps 2004).

The factors singled out as the most predictive factors associated with the onset of eating disorders are body dissatisfaction, a drive for thinness and low self-esteem (Button, Loan, Davies & Sonuga-Barke 1996; Cahill & Mussap 2007; Fairburn & Harrison 2003; Lu & Hou 2009; Shea & Pritchard 2007; Stice & Shaw 2002; Tiggemann 2005). This study focuses on these above-mentioned eating disorder predictors to inform our understanding of protective factors. Body dissatisfaction occurs when individuals perceive discrepancies between their body size and shape, and the culturally determined thinness ideal (Fairburn & Harrison 2003; Garner 2004). The definition of the drive for thinness is said to be a firm willingness to alter body size and shape, and entails persistent weight over-concern, a fear of fat and a preoccupation with dieting (Celio, Winzelberg, Taylor, Epstein-Herald, Springer & Dev 2000; Levitt 2003). Finally, low self-esteem is defined as a stable set of

beliefs based on the negative self-evaluation about the individual's own qualities, attributes, adequacy and sense of worthiness (Nosek, Hughes, Swedlund, Taylor, & Swank 2003). However, although body dissatisfaction and a drive for thinness are almost universal among women, and many women experience low self-esteem, not all women who are dissatisfied with their bodies and themselves, develop clinical eating disorders (Brown 2008). This may make one wonder about the role of protective factors associated with eating disorders, even though this has not been the predominant focus of past research.

Until recently, research regarding eating disorders has mainly focused on identifying the risk factors; these were seen as being important in treatment as elimination of these factors resulted in the absence of maladaptive eating disordered behaviour. Numerous past studies have identified the following as risk factors: low self-esteem (Shea & Pritchard 2007), self-judgement and the inability to forgive the self (Worthington, Mazzeo & Kliewer 2002), perfectionistic tendencies (Downey & Chang 2007; Holston & Cashwell 2000); low perception of control and power (Budd 2007); higher levels of loneliness and interpersonal dependency (Pritchard & Yalch 2008); higher levels of shyness (Miller, Schmidt, Vaillancourt 2008); feelings of disconnectedness from others and extremely harsh self-criticism (Proulx 2008); self-orientated perfectionism and difficulty in unconditional self-acceptance (Hall, Hill, Appleton & Kozub 2009). Even though risk factor identification has allowed for increased insight into eating-disordered behaviour, the focus has remained strongly on treatment and less on prevention. This has resulted in a gap in how we approach the crisis of eating disorders in today's society.

The identification of protective factors and therefore the enhancement of psychological well-being as treatment and prevention approaches have recently become an important focus in the field of psychology (Steck, Abrams & Phelps 2004). Positive psychology is a field in psychology which has gained much attention, and which – instead of the traditional focus on risk factors – looks at protective factors; permitting that constructive personal traits and positive systems within the individual's life contributes to the evaluation of subjective well-being (Steck, Abrams & Phelps 2004). The positive psychology model suggests that identifying and enhancing protective factors allows for psychology to move closer to the prevention of eating disorders, rather than just focusing on the disease and its risk factors, as it allows individuals to be viewed holistically attaining positive aspects from the individual as tools of prevention, as well as treatment (Steck, Abrams & Phelps 2004). These authors state that “nowhere may the application of positive psychology be more relevant than in the prevention of eating disorders”. Therefore it is assumed that self-forgiveness and self-compassion, with its associated constructs, may be protective factors in eating

disorder development, as both self-compassion and self-forgiveness have been associated with a variety of beneficial psychological outcomes (Neff 2003a). Recent studies aimed at identifying protective factors against the development of eating disorders, have successfully identified several factors believed to be important enough to be considered in future research and prevention programmes. These factors are believed to be: positive self-esteem (Brown 2008; Shea & Pritchard 2007), self-determination (Steck, Abrams & Phelps 2004), self-forgiveness (Watson 2007), and self-compassion (Adams & Leary 2007). A recent study done in a South African university context found that individuals with low body dissatisfaction and a low drive for thinness engage more in self-acceptance, than those with higher body dissatisfaction and a higher drive for thinness (Nienaber, Kirsten & Fischer 2009). It is believed that self-acceptance reduces the compulsive behaviour associated with eating-disordered behaviours (Kirsten & Du Plessis 2008; Nienaber, Kirsten & Fischer 2009).

Neff, Kirkpatrick and Rude (2007) proposes that self-compassion and its associated constructs, namely mindfulness, self-kindness and common humanity, constitute a healthy form of self-acceptance, as it entails adopting a radical accepting stance towards the disliked aspects of oneself and one's life. Knowledge and research about self-compassion and self-forgiveness have only in recent years drawn some focus, and these constructs are universally seldom used in prevention programmes – especially in relation to eating disorder prevention. Insight into self-forgiveness and self-compassion, with its associated constructs as eating disorder prevention agents may therefore be valuable – particularly since research on these topics is limited, especially in a South African university context.

Self-compassion was recently defined by Neff (2003a) as being kind and understanding towards oneself in instances of pain or failure, instead of being harshly self-critical, therefore being open to and moved by one's own suffering. Self-compassion encompasses three constructs, namely: experiencing feelings of caring and kindness towards oneself, which may be defined as self-kindness; taking an understanding, non-judgemental attitude towards one's inadequacies and failures, defined as mindfulness; and recognising that one's own experiences are part of the common human experience, known as common humanity (Neff 2003a). Self-forgiveness also fosters self-compassionate behaviour and encourages individuals to engage in less self-harming behaviours, as engaging in self-forgiving behaviour emphasises self-love and self-respect in instances of failure (Hall & Fincham 2005). These authors define self-forgiveness as the release of negative feelings toward the self in the wake of an objective fault or wrongdoing, and the

restoration of goodwill, self-respect, and self-acceptance. Studies have suggested that self-compassion may reduce body dissatisfaction, low self-esteem and guilt associated with eating (Adams & Leary 2007). Individuals engaging in self-compassionate and self-forgiving behaviour are able to see themselves as independent from their failures, and to view wrongdoings as part of the larger human experience (Brown 2008; Neff 2003b). Theoretically, self-compassion could reduce body dissatisfaction and the drive for thinness, as individuals with body dissatisfaction and a drive for thinness criticise themselves harshly, set unattainably high personal goals and drive themselves excessively to reach those goals. They also show a lack of self-compassion and forgiveness, which inhibits self-acceptance (Kirsten & Du Plessis 2008). Engaging in self-compassionate and self-forgiving behaviour will result in reduced distress, as such individuals will experience more self-acceptance of themselves and their failures; they will recognise their experiences as being common to humanity, and will experience high levels of self-esteem (Adams & Leary 2007; Brown 2008; Hall & Fincham 2005; Watson 2007).

By gaining insight into the relationship between the drive for thinness, body dissatisfaction and low self-esteem on the one hand, and self-forgiveness and self-compassion (with its associated mindfulness, self-kindness and common humanity) on the other, valuable information regarding prevention or treatment programmes may be gained. No such known programme currently includes the concepts of self-forgiveness and self-compassion (with its associated constructs mindfulness, self-kindness and common humanity) per se. Current eating disorder treatment programmes predominantly focus on risk factors. Examples of such risk-focused programmes are: primary school-based programmes for the primary prevention of anorexia nervosa (Berger, Sowa, Bormann, Brix & Strauss 2008); cognitive-behavioural therapy programmes (Bell & Rushforth 2008; Pretorius et al. 2009); and the computerised psycho-educational programme (Taylor et al. 2006; Zabinski, Pung, Wiifley, Eppstein, Winzelberg, Celio & Taylor 2001). Proulx (2008) reported a mindfulness-based group for bulimia nervosa, which resulted in greater self-awareness, self-acceptance and self-compassion. This indicates the importance of investigating constructs such as self-compassion as a protective factor. Research to determine whether these can be incorporated into prevention programmes, in particular within a South African population, will enrich the current knowledge within the field of psychology.

The aim of this preliminary study is to increase our understanding of the relationship between self-compassion, its associated constructs namely mindfulness, self-kindness and common humanity, and self-forgiveness on the one hand, and the primary eating disorder predictors, namely body

dissatisfaction, a drive for thinness and low self-esteem on the other. The emerging research questions thus are: a) Are there significant correlations between body dissatisfaction, a drive for thinness, self-forgiveness and self-compassion, and its associated constructs namely mindfulness, self-kindness and common humanity?; b) What are the nature of these correlations?; and c) What would the implications be for future research and the development of future prevention and treatment programmes?

It is thus hypothesised that there will be significant negative correlations between self-forgiveness and self-compassion, with its associated constructs, namely mindfulness, self-kindness and common humanity on the one hand, and primary eating disorder predictors, namely body dissatisfaction, a drive for thinness and low self-esteem on the other. The null hypothesis is that there will be no significant negative correlations between the constructs.

## **RESEARCH DESIGN**

### **Research approach**

The study was conducted in a quantitative research manner as it examines constructs based on a derived hypothesis (Struwig & Stead 2001). It is a preliminary study used as a scanning technique to determine whether future research into possible causality would be worthwhile (Black 1999). An empirical investigation using a non-experimental correlation research design was applied, as it enquires about the nature of relationships between variables, whether such relationships exist and what the strengths of such relationships are (Punch 2005; Terre Blanche, Durrheim & Painter 2006). The results provided an indication of whether one variable tended to increase or decrease with another, or to decrease while others increased. The study measured the relationship between variables such as self-compassion, its associated constructs mindfulness, self-kindness and common humanity, and self-forgiveness on the one hand, and body dissatisfaction, drive for thinness and low self-esteem on the other. It further identified the group correlations to determine whether future research into possible causality would be worthwhile. Primary data was collected by way of questionnaires, and Pearson correlation coefficients were calculated by means of the SAS programme to determine correlations between the subscales, using the correlation guidelines of Cohen (1988).

## Research methods

### *Research population & sampling*

A non-probability convenience sampling technique was applied (Struwig & Stead 2001), after unsuccessful attempts were made to recruit females via representative sampling. The main reason could be that sampling occurred near to and during a semester test session. Participants thus were chosen purely on the basis of availability and accessibility to ensure that abundant data was obtained within a limited period of time. An initial availability sample of 200 females were selected, but after a data cleaning process described below, this multicultural sample included 122 residential female students between the ages of 18 and 25 at the Potchefstroom campus of the North-West University. The majority of the participants were White (N = 112), with African (N = 8), and ethnic group not indicated (N = 2). Residential committee members were asked to announce the study in their weekly residential meetings. Here participants were invited to participate in the study on a voluntary basis. Interested participants were identified, and the nature of the study was explained to them. Written informed consent was obtained from each participant, and participants were ensured of complete anonymity and confidentiality. A survey design was used, and data was collected by an intern clinical psychologist. Self-administered questionnaires, were distributed to the participants within the setting of the residence and they were requested to complete the questionnaires in private during the course of the following day. Questionnaires were collected upon their completion. Demographic data of participants are illustrated in Table 1.

< insert Table 1 about here >

### *Research measuring instruments*

Data was collected using various self-report questionnaires:

*Body Mass Index (BMI)*: The BMI was calculated by dividing each participant's self-reported mass in kilograms by her height squared (BMI: kg/m<sup>2</sup>) (Sarafino 2002). A BMI falling below 18.5 is regarded as underweight and unhealthy; a BMI between 18.5 and 24.9 is regarded as normal; a BMI of 25 to 29.9 is regarded as overweight (pre-obese); a score of 30-34.9 is considered obese class I; and 35-39.9 is considered obese class II (WHO 2006). BMI's were only calculated as indicative of range and not as determining variables. It has previously been found that BMI correlates highly with body dissatisfaction and a drive for thinness (Taniguchi 2004; Sujoldzic & De Lucia 2007; Yates, Edman & Aruguete 2004). Ideally, body fat percentage would have been a better indication of range, but it was not calculated due to difficulties regarding the administration of such a measure

within the stated setting.

*The Eating Disorder Inventory 3 (EDI-3, Garner 2004)*: The EDI-3 was used to measure participants' degree of body-dissatisfaction, drive for thinness and low self-esteem. Body dissatisfaction, a drive for thinness and low self-esteem have been singled out as the most predictive factors associated with the onset of eating disorders (Button, Loan, Davies & Sonuga-Barke 1997; Cahill & Mussap 2007; Fairburn & Harrison 2003; Lu & Hou 2009; Shea & Pritchard 2007; Stice & Shaw 2002; Tiggemann 2005). Therefore, for the purpose of this study, the following sub-scales were used: body-dissatisfaction, drive for thinness, and low self-esteem. Each participant completed the 23-item self-report, Likert scale measure of psychological traits or constructs shown to be clinically relevant in individuals with eating disorders (Garner 2004). EDI-3 is validated on both clinical and non-clinical populations, and has valid and reliable psychometric properties. It is suitable for various ethnic groups but not for the South African population. The reliability of the scale has been shown to be good, as a Cronbach alpha greater than 0.65 is considered good when measures are used to make decisions about groups (Foxcroft & Roodt 2005). Good reliability and therefore Cronbach alphas have however been obtained in a South African adolescent sample, ranging between 0.63 and 0.88 (Da Páz Francisco, Kirsten & Du Plessis, 2007), with Cronbach alphas of 0.90 for body dissatisfaction, 0.88 for drive for thinness and 0.85 for low self-esteem. In this study, similarly good Cronbach alphas for subscales were found: body dissatisfaction 0.88; drive for thinness 0.84; and low self-esteem 0.84.

*The Self-Compassion Scale (SCS, Neff 2003)*: The SCS measures total self-compassion and its constructs, namely mindfulness, self-kindness and common humanity. It is a 26-item self-reporting Likert scale questionnaire, and the items are arranged into 6 scales, namely self-kindness, self-judgement, common humanity, isolation, mindfulness and over-identification. Internal consistency of the subscales ranged between 0.75 and 0.81, and was 0.92 for the scale as a whole; this demonstrated good test-retest reliability of 0.93 when administered twice over a three-week interval; and adequate construct validity and discriminate validity were also reported (Neff 2003b). The SCS has not been standardised for the South African population; however, in this study good reliability was found, with Cronbach alphas of 0.80 for self-kindness, 0.76 for common humanity, 0.76 for mindfulness and 0.88 for the SCS as a whole.

*The Heartland Forgiveness Scale (HFS, Thompson, Snyder, Hoffman, Michael, Rasmussen & Billings 2005)*: The HFS was used to determine participants' level of self-forgiveness. It is an 18-

item self-report measure containing a seven-point Likert scale, which measures three separate constructs, namely forgiveness of self, forgiveness of others and situational forgiveness. For the purpose of this study, only the self-forgiveness subscale will be utilised. Test-retest reliability for the total scale has been reported at 0.82, with Cronbach alphas ranging between 0.84 and 0.87 for the total scores. Ross, Kendall, Matterns, Wrobel and Rye (2004) state the Cronbach alphas of the forgiveness of self subscale at 0.76. In this study good reliability was found, with Cronbach alphas of 0.73 for forgiveness of self.

### *Ethical considerations*

Ethical permission was obtained by the North-West University (NWU) to conduct the study (project number: 06K25). Participants were informed of the reason and method of the study, they participated voluntarily, and were informed that they could withdraw at any stage of the research process. Written informed consent was obtained by participants at the beginning of their participation, and their anonymity and confidentiality were ensured. At all times, the well-being of the participants was considered. Participants were informed of the option of available therapy if they felt the necessity.

### *Research procedure*

Voluntary participants were identified among the residents of the Potchefstroom campus, by announcing the study in their weekly residential meetings. Participants were then invited to participate in the study on a voluntary basis. Interested participants were identified, and the nature of the study was explained to them. Written informed consent was obtained from participants at the beginning. Participants then collected self-report questionnaires. The questionnaires were completed in the residence in private during the course of the following day, and collected upon completion. All the questionnaires were handled anonymously. The abovementioned questionnaires have not yet been translated to Afrikaans as the constructs do not yet have agreed upon subject terms, translation at this stage would thus risk reducing the validity. Although the questionnaires were only available in English no problems were foreseen or reported, as everyone was proficient in English, since all undergraduate students are tested at university entry for English second language proficiency.

After completion of the questionnaires, a thorough procedure to 'clean' the data was carried out. This was done by checking that all the questions had been completed. A questionnaire was discarded if there were any missing responses. A number of 200 questionnaires were distributed, of

which a final number of 122 questionnaires were usable, 61 were not returned by participants, and 17 were discarded. After this, the data was captured and processed by the North-West University's Statistical Consultative Services.

*Data collection & statistical analysis*

Data from the questionnaires was analysed in a twofold manner: firstly, the reliability of all the questionnaires and their subscales was determined by means of Cronbach alpha coefficients. Secondly, Pearson correlation coefficients were determined for all the subscales by means of a correlation analysis. This was captured and processed by the North-West University's Statistical Consultative Services, using the SAS programme to determine correlations between the subscales, and interpreted according to the guidelines of Cohen (1988).

## RESULTS

The study aimed to determine the relationship between self-compassion and its associated constructs (mindfulness, self-kindness and common humanity), as well as self-forgiveness on the one hand, and the identified eating disorder predictors, namely body dissatisfaction, drive for thinness and low self-esteem, on the other. This was done by determining the Pearson correlation coefficients ( $r$ ) between these variables. According to the guidelines of Cohen (1988), a Pearson correlation coefficient for social sciences between 0.0 and  $\pm 0.09$  is indicative of no significant relationship between the variables; between  $\pm 0.1$  and  $\pm 0.23$  it is indicative of a slight relationship between variables; between  $\pm 0.24$  and  $\pm 0.36$  it is indicative of a medium effect relationship between variables, and between  $\pm 0.37$  and  $\pm 1$  it is indicative of a large and practical significant effect relationship between variables. The  $p$ -value represents the probability of error that is involved and indicates to what percentage the results are valid; therefore, the lower the  $p$ -value, the stronger the evidence (Cohen 1988).

In this study it was found that self-compassion had significant negative correlations with body dissatisfaction ( $r = -0.430$ ;  $p < 0.0001$ ), low self-esteem ( $r = -0.402$ ;  $p < 0.0001$ ) and drive for thinness ( $r = -0.325$ ;  $p = 0.0003$ ). This indicated that self-compassion had a large inverse effect on body dissatisfaction and low self-esteem, and a medium inverse effect on drive for thinness. When considering the constructs of self-compassion, it was found that self-kindness had significant negative correlations with the drive for thinness ( $r = -0.379$ ;  $p < 0.0001$ ), body dissatisfaction ( $r = -0.439$ ;  $p < 0.0001$ ) and low self-esteem ( $r = -0.413$ ;  $p < 0.0001$ ). It was also found that common humanity had significant negative correlations with the drive for thinness ( $r = -0.291$ ;  $p = 0.0011$ ), body dissatisfaction ( $r = -0.401$ ;  $p < 0.0001$ ) and low self-esteem ( $r = -0.391$ ;  $p < 0.0001$ ). Furthermore it was found that one of self-compassion's associated constructs, mindfulness, had significant negative correlations with the drive for thinness ( $r = -0.297$ ;  $p = 0.0009$ ), with low self-esteem ( $r = -0.335$ ;  $p = 0.0002$ ), and with body dissatisfaction ( $r = -0.428$ ;  $p < 0.0001$ ). Examination of the self-compassion constructs and their separate effects on the eating disorder predictors show that mindfulness, self-kindness, and common humanity have large inverse effects on body dissatisfaction. Self-kindness had a large inverse effect on all three the identified eating disorder predictors, whereas common humanity had a large inverse effect on low self-esteem. Both mindfulness and common humanity had medium inverse effects on the drive for thinness, and mindfulness also had a medium inverse effect on low self-esteem.

Self-forgiveness showed significant negative correlations with low self-esteem ( $r = -0.424$ ;  $p < 0.0001$ ), the drive for thinness ( $r = -0.276$ ;  $p = 0.0021$ ) and body dissatisfaction ( $r = -0.395$ ;  $p < 0.0001$ ). These correlations can be regarded to be medium to high, following the guidelines of Cohen (1988) as mentioned above. These results indicate that self-forgiveness had large inverse effects with low self-esteem and body dissatisfaction, as well as a medium inverse relationship with the drive for thinness.

*<insert Table 2 about here>*

Practically significant medium to high positive correlations were found, according to Cohen's guidelines (1988), within the subscales of the EDI-3. The drive for thinness had significant positive correlations with body dissatisfaction ( $r = 0.609$ ;  $p < 0.0001$ ) and with low self-esteem ( $r = 0.454$ ;  $p < 0.0001$ ). Finally, it was found that body dissatisfaction had a significant positive correlation with low self-esteem ( $r = 0.362$ ;  $p < 0.0001$ ). This shows that body dissatisfaction and the drive for thinness had a very strong positive effect on one another; this may indicate that the more dissatisfied the individual is with her body image, the greater her drive for thinness. Furthermore, low self-esteem was affected to a large degree by the drive for thinness, and to a lesser degree by body dissatisfaction.

*<insert Table 3 about here>*

## **DISCUSSION**

This study aimed to identify whether significant correlations exist between self-compassion, with its associated constructs (mindfulness, self-kindness and common humanity), as well as self-forgiveness on the one hand, and the primary eating disorder predictors, namely body dissatisfaction, a drive for thinness and low self-esteem on the other. The results showed that there were significant relationships between self-compassion, self-forgiveness and the eating disorder predictors. The findings also demonstrated that significant relationships exist between the eating disorder predictors. Significant correlations such as the above-mentioned could allow for future regression studies to identify the above-mentioned as protective factors, and could inform future prevention programmes, especially within the South African population.

The most prominent finding of this study was that self-compassion as a whole and all three its constructs (mindfulness, self-kindness and common humanity) had a significantly large inverse

effect on body dissatisfaction. This may indicate that female students with higher self-compassion might have less body dissatisfaction. This may relate to a study by Brown (2008), where it was found that women with high self-compassion had higher body image satisfaction. Adams and Leary conducted a pilot study, which is referred to in their 2007 study. Here they found that college women with a higher self-compassion trait had a less negative reaction to a hypothetical diet-breaking scenario than those lower in self-compassion. Therefore the findings of this study's correlations, as well as literature evidence may indicate that the constructs mindfulness, self-kindness, common humanity and self-compassion as a whole could perhaps serve as a protective factor against the development and possibly the severity of body dissatisfaction. Perhaps the ability to be kind and understanding towards oneself in instances of perceived failure to attain the ideal body size and shape, known as the ability to be self-compassionate (Neff 2003a), may combat the harsh self-critic behaviour associated with body dissatisfaction (Proulx 2008). Further research exploring whether a cause-and-effect relationship exists between these factors is essential in the confirmation of this. If self-compassion is identified as a constructive personal trait / protective factor that allows the individual to be more accepting and forgiving towards her flawed body, which the correlation findings of this study hints towards, fostering this trait within individuals may be essential in future eating disorder prevention and treatment programmes.

Self-compassion as a whole also had a large inverse effect on low self-esteem, although self-forgiveness showed a much greater inverse effect on low self-esteem. This corresponds with a study by Strelan (2007), where it was found that self-esteem correlates strongly with self-forgiveness. In another study it was also found that self-compassion had a significant negative correlation with low self-esteem (Brown 2008). Neff (2003a) has previously suggested that self-compassion was associated with a healthier self-esteem. This indicates that female students with higher self-compassion and especially higher self-forgiveness will most likely have higher self-esteem. Even though a strong inverse effect is found in this study between self-compassion and low self-esteem; which indicates that engaging in self-kind and understanding behaviours rather than evaluating oneself in a harsh and critical manner in instances of perceived failure (Neff 2003a) to achieve one's ideal body size and shape results in higher self-esteem; self-forgiveness has stronger influence on individual's self-esteem. Thus acting in a self-forgiving manner compels the individual to let go of negative feelings and self-evaluation (Hall & Fincham 2005), which is defined to results in low self-esteem (Nosek et al. 2003). It is therefore assumed that the release of negative emotions (self-forgiveness) associated with one's failure in comparison to merely being self-kind, understanding and open to one's own suffering (self-compassion) has a strong inverse

effect on negative self-evaluation of one's worthiness (self-esteem) due to how the individual perceives she looks.

It was also found that both self-compassion and self-forgiveness had medium inverse effects on the drive for thinness, whereas body dissatisfaction and the drive for thinness had a very strong corresponding relationship with each other – which may indicate that female students with increasing body dissatisfaction might experience an increasing drive for thinness. Therefore it can be assumed that an individual's level of drive for thinness would be affected by the individual's level of body dissatisfaction, but that female students with higher self-compassion and self-forgiveness may experience lower levels of the drive for thinness. Similarly, a study by Watson (2007) found an inverse relationship between self-forgiveness and eating-disordered symptomatology.

Of the three self-compassion constructs, self-kindness had the greatest inverse effect on the identified eating-disordered predictors, namely body dissatisfaction, a drive for thinness and low self-esteem. This indicates that female students who engage in self-kindness to a greater degree than those engaging less in self-kindness, or to a greater degree in mindfulness and common humanity, tend to experience less body dissatisfaction, less drive for thinness and higher self-esteem. Adams and Leary (2007) suggested that individuals engaging in self-kindness are less self-critical and tend to cope more constructively in instances of perceived failure. These authors also suggest that individuals who react to negative events with self-kindness, tend to experience more positive feelings towards themselves. When considering the definitions of the primary predictors of eating disorder behaviour, as mentioned earlier in the article, it could be concluded that both body dissatisfaction and low self-esteem are similar in that they both involve the negative evaluation of body and self-worth respectively. Self-kindness, on the other-hand, requires being less self-critical (Adams & Leary 2007). It may therefore be assumed that the self-compassion construct self-kindness has a strong inverse effect on body dissatisfaction and low self-esteem merely as engaging in a less self-critical and more self-kind and caring behaviour demands that an individual possesses a more positive self-evaluation, thereby opposing the negative self-evaluation related to body dissatisfaction and low self-esteem. Furthermore the persistent over-concern and firm desire to change oneself associated with drive for thinness cannot exist without extreme negative self-evaluation. Fostering self-kindness within individuals may serve as a strong preventive factor as it encourages self-acceptance. It can therefore be assumed that future programmes designed to prevent the development of and treat these identified primary eating disorder predictors should

place strong emphasis on self-kindness within the concept of self-compassion. Further research into the manner in which self-kindness may be cultivated, as well as its function within such preventive programmes is essential.

Finally, this study found that the identified predictors of eating disorders had significant positive correlations with each other, especially the drive for thinness and body dissatisfaction. This may indicate that the identified eating disorder predictors may directly influence each other. Correspondingly, Brown (2008) found that body dissatisfaction related to self-esteem. This corresponds with Shea and Pritchard (2007), who found positive self-esteem to be a secondary protective factor associated with the reduced risk for the onset of eating disorders. It is also believed that an internalised thin ideal is related to body dissatisfaction (Stice & Shaw 2002).

These results therefore indicate that both self-compassion, with its associated constructs, and self-forgiveness may have an inverse effect on body dissatisfaction, a drive for thinness and low self-esteem.

### *Recommendations*

Based on the findings of this study, it is recommended that further research be conducted to identify self-forgiveness and self-compassion, with its associated components, namely mindfulness, self-kindness and common humanity as protective factors and to consider incorporating them into prevention programmes. Replication of the study with a larger sample representing the ethnic diversity of the South African population, will allow for the comparison of results.

### *Limitations*

Limitations of the study were that the measurements to determine the Body Mass Index (BMI) of the participants were self-reported and not measured professionally, and may therefore not be a true reflection of the sample's actual BMI. Measuring the participants' body fat percentage would also have been beneficial in indicating whether dysfunctional eating behaviour existed among the participants. The ethnic distribution of the sample was not representative of that of the entire South African population. The findings can not be generalised as convenience sampling was used.

## **CONCLUSION**

As our knowledge of risk, predictive and recently highlighted protective factors associated with eating disorders increases, so do treatment and preventive programmes become more effective. The

results found in this study indicate that with further research, self-compassion, its constructs (mindfulness, self-kindness and common humanity) and self-forgiveness may play an essential part in future treatment and preventive programmes, due to their inverse relationship with body dissatisfaction, a drive for thinness and low self-esteem.

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**ANNEXURE A**  
**TABLES**

Table 1: Demographic data of participants

<b>Variable</b>	<b>N</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Age</b>	122	20.42	1.62	18.00	25.00
<b>Weight</b>	121	64.14	10.10	43.00	98.00
<b>Height</b>	118	166.95	7.19	148.00	189.00
<b>BMI</b>	117	23.11	3.24	17.65	38.02

**Table 2: Pearson Correlation Coefficients for self-compassion, self-forgiveness and eating disorder predictors**

	<b>SCS: Self- Compassion</b>	<b>SCS: Self- Kindness</b>	<b>SCS: Common Humanity</b>	<b>SCS: Mindfulness</b>	<b>HFS: Self- Forgiveness</b>
<b>EDI-3: Drive for Thinness</b>	-0.325 $\Delta$	-0.380 $\blacktriangle$	-0.292 $\Delta$	-0.298 $\Delta$	-0.276 $\Delta$
<b>EDI-3: Body Dissatisfaction</b>	-0.431 $\blacktriangle$	-0.440 $\blacktriangle$	-0.402 $\blacktriangle$	-0.428 $\blacktriangle$	-0.395 $\blacktriangle$
<b>EDI-3: Low Self-Esteem</b>	-0.402 $\blacktriangle$	-0.413 $\blacktriangle$	-0.391 $\blacktriangle$	-0.336 $\Delta$	-0.425 $\blacktriangle$

Note: r between  $\pm 0.24$  and  $\pm 0.36$  = medium  $\Delta$ ; r between  $\pm 0.37$  and  $\pm 1$  = large  $\blacktriangle$   
 SCS = Self-Compassion Scale; HFS = Heartlands Forgiveness Scale  
 EDI-3: Eating Disorder Inventory-3

Table 3: Pearson Correlation Coefficients for drive for thinness, body-dissatisfaction and low self-esteem on the EDI-3

<b>EDI-3</b>	<b>Drive for Thinness</b>	<b>Body Dissatisfaction</b>	<b>Low Self-Esteem</b>
<b>Drive for Thinness</b>	1.00000 ▲	0.609 ▲	0.455 ▲
<b>Body Dissatisfaction</b>	0.609 ▲	1.00000 ▲	0.363 Δ
<b>Low Self-Esteem</b>	0.455 ▲	0.363 Δ	1.00000 ▲

Note: r between ± 0.24 and ± 0.36 = medium Δ; r between ± 0.37 and ± 1 = large ▲  
EDI-3: Eating Disorder Inventory-3