



The relationship between communication and low marital satisfaction: A rapid review

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A special thanks to Kobus for your support, guidance, and patience - I am eternally grateful to you.

Thank you, God for your grace.

Declaration Statement

I, Albertus Johannes Stephanus Nel (27495639), declare that *The relationship between communication and low marital satisfaction: A rapid review*, a mini-dissertation submitted in partial fulfilment of the requirements for the degree *Magister Atrium* in Clinical Psychology at the Potchefstroom campus of the North-West University, was completed according to the Copyright Act, No 98 of 1978 of the Republic of South Africa. All literary and academic material and sources consulted during the writing and compilation of this mini-dissertation have been acknowledged and referenced according to the American Psychological Association's Publication manual (6th edition). No single or comprehensive unit of this mini-dissertation has been plagiarised from another author or institution and the document remains the intellectual property of the corresponding author, namely myself.

Furthermore, I certify that submission of this mini-dissertation is exclusively for examination purposes at the Potchefstroom Campus of the North-West University and it has not been submitted for any other purposes to any third party.



Albertus Johannes Stephanus Nel

Summary

What distinguishes a happy marriage from an unhappy one? According to Gottman and Krokoff (1989) research on marriage has been conducted since the 1930's in an effort to answer this seemingly complex question. As some of the leading researchers in this field, they attempted to answer this question by investigating the longitudinal effect of what distinguishes a satisfying marriage from an unsatisfying one over time, by investigating the communication between heterosexual marital partners. Put differently, they sought to determine what differentiates non-distressed couples from distressed couples in a marital relationship with regard to their level of marital satisfaction when investigating their communication patterns. Their findings revealed what became commonly known as the 'four horsemen of the apocalypse', or the four communication behaviours which, when present in a marriage, resulted in the highest likelihood of low marital satisfaction. These factors were named criticism, contempt, defensiveness and stonewalling (Gottman & Krokoff, 1989). This research was conducted in the 1980's in the United States of America (USA), which led the researcher to question whether these findings were still relevant in contemporary marriages and, whether they were also applicable to marriages outside of the USA, including South Africa?

While reviewing the literature in response to the aforementioned question, a recently published rapid systematic review was identified that was conducted in South Africa by Du Plooy and De Beer (2018) where the relationship between communication and high levels of marital satisfaction was investigated. This study had focussed on the factors which contributed to high levels of marital satisfaction among heterosexual married couples and research that focussed on factors that contributed to low levels of marital satisfaction could not be identified from it. As such, the aim of the current study was to build on the aforementioned research by Du Plooy and De Beer (2018) by conversely summarizing the best available scientific research of communication aspects that contributed to low levels of marital satisfaction among heterosexual married couples. This rapid

systematic review was conducted independently by two researchers over a period of four weeks. While keeping by the standards set by Du Plooy and De Beer (2018), the search was limited to articles published between 2005 and 2015 in English or Afrikaans, which reported on both quantitative and qualitative scientific data. These articles were primarily obtained in full text format from the North-West University's (NWU) database. In addition, a secondary search was also conducted on Google Scholar in order to ensure that the best available empirical evidence was included, as well as that to keep the number of important findings to be missed, as low as possible. The initial search produced 372 articles after duplicates and articles written in other languages were removed. A further 310 articles were next excluded after their titles and abstracts were screened for relevance. Of the remaining 62 articles, 26 more were excluded after the two independent reviewers further reviewed and discussed the pre-selected articles. Following full-text screening for relevance of the remaining 36 articles, another 23 were excluded due to not meeting the complete inclusion criteria. Finally, 13 articles were included in the study as they were deemed scientifically valid and reliable after being critically appraised by the two independent researchers according to the National Institute for Health and Care Excellence (NICE, 2012) guidelines. Findings from the study revealed two themes and related sub-themes. Theme one revolved around detrimental communication processes which included the sub-themes of the demand/withdraw pattern of communication, destructive conflict styles, ineffective pre- or early marital communication and ineffective problem-solving skills. Theme two consisted of detrimental content which included the sub-themes of financial stress and conflict surrounding sex in the marriage. These themes and sub-themes were all associated with low levels of marital satisfaction. In conclusion, this study illustrated that certain aspects of communication, pertaining both to process and content, lowered couples' levels of marital satisfaction. Lastly, the results indicated the need for more research on the present topic within the South African and African context, as well as research on other types of relationships and marriages as it pertains to levels of satisfaction.

Keywords: communication, low marital satisfaction, marital dissatisfaction, marital satisfaction, rapid review

Opsomming

Wat onderskei 'n gelukkige huwelik van 'n ongelukkige een? Volgens Gottman en Krokoff (1989) word daar sedert die 1930's navorsing oor die huwelik gedoen in 'n poging om hierdie skynbaar ingewikkelde vraag te probeer beantwoord. As van die voorstaande navorsers op hierdie gebied het hulle gepoog om hierdie vraag te beantwoord deur te kyk na die longitudinale effek van wat 'n bevredigende huwelik onderskei van 'n onbevredigende een oor die verloop van tyd deur die kommunikasie tussen heteroseksuele huweliksmaats te ondersoek. Anders gestel, het hulle probeer om vas te stel wat 'n gelukkige egpaar van 'n ongelukkige egpaar onderskei, ten opsigte van hul vlakke van huweliksbevrediging, deur hul kommunikasie patrone te ondersoek. Hul bevindinge staan algemeen bekend as die 'vier ruiters van die apokalips', of die vier kommunikasie gedragte wat, wanneer dit in 'n huwelik teenwoordig is, die hoogste waarskynlikheid inhou om tot lae vlakke van huweliks bevrediging te lei. Hierdie faktore sluit in kritiek, minagting, weerloosheid en om die ander party te ignoreer of vermy (Gottman & Krokoff, 1989). Hierdie navorsing is in die tagtigerjare in die Verenigde State van Amerika (VSA) voltooi wat daartoe gelei het dat die navorser bevraagteken het of hierdie bevindinge steeds relevant was in hedendaagse huwelike, en of dit ook op huwelike buite die VSA van toepassing is, insluitend Suid Afrika?

Tydens die hersiening van die literatuur na aanleiding van die bogenoemde vraag is 'n onlangs gepubliseerde vinnige sistematiese oorsig geïdentifiseer wat deur Du Plooy en De Beer (2018) in Suid-Afrika uitgevoer is, waar die verband tussen kommunikasie en hoë vlakke van huweliksbevrediging onder heteroseksuele huweliksmaats ondersoek is. Hierdie studie het gefokus op die faktore wat bygedra het tot hoë vlakke van huweliksbevrediging, maar navorsing wat gefokus het op faktore wat bydra tot lae vlakke van huweliksbevrediging kon steeds nie daaruit geïdentifiseer word nie. Sodanig was die doel van die huidige studie om voort te bou op die

bogenoemde navorsing van Du Plooy en De Beer (2018) deur om op die omgekeerde te fokus en die beste wetenskaplike navorsing van die aspekte van kommunikasie op te som wat bydra tot lae vlakke van huweliksbevrediging onder heteroseksuele huweliksmaats. Hierdie vinnige sistematiese oorsig is onafhanklik deur twee navorsers oor 'n periode van vier weke gedoen. In ooreenstemming met die standaard wat deur Du Plooy en De Beer (2018) gestel is, was die soektog beperk tot artikels wat tussen 2005 en 2015 in Engels of Afrikaans gepubliseer is en wat oor kwantitatiewe, sowel as kwalitatiewe wetenskaplike bevindinge berig het. Hierdie artikels is hoofsaaklik in volledige teks verkry vanaf die Noordwes-Universiteit (NWU) se databasis. Daarbenewens is ook 'n sekondêre soektog op *Google Scholar* uitgevoer om te verseker dat die beste beskikbare empiriese bewyse geïdentifiseer is en dat so min as moontlik belangrike bevindings gemis is. Die aanvanklike soektog het 372 artikels opgelewer nadat duplikate en artikels wat in ander tale geskryf is, verwyder is. 'n Verdere 310 artikels was volgende uitgesluit nadat hul titels en abstrakte na gegaan is vir relevansie. Van die oorblywende 62 artikels is nog 26 uitgesluit nadat die twee onafhanklike beoordelaars die vooraf-geselekteerde artikels verder hersien en bespreek het. Na die volledige teksondersoek vir die relevansie van die oorblywende 36 artikels, is nog 23 uitgesluit omdat hulle nie ten volle aan die insluitings kriteria voldoen het nie. Uiteindelik is 13 artikels by die studie ingesluit, aangesien dit wetenskaplik geldig en betroubaar geag is nadat hulle deur die twee onafhanklike navorsers krities beoordeel was volgens die riglyne van die National Institute for Health and Care Excellence (NICE, 2012). Bevindinge uit die studie het twee temas en verwante sub-temas opgelewer. Tema een het gehandel oor nadelige kommunikasieprosesse wat die sub-temas van die vereis / onttrek-kommunikasiepatroon, vernietigende konflikstyle, oneffektiewe voor- of vroeë huwelikskommunikasie en oneffektiewe probleem oplossingsvaardighede ingesluit het. Tema twee het bestaan uit nadelige inhoud, wat die sub-temas van finansiële spanning en konflik rondom seks in die huwelik ingesluit het. Hierdie temas en sub-temas was almal geassosieer met lae vlakke van huweliksbevrediging. Ter afsluiting het hierdie studie geïllustreer dat sekere aspekte van kommunikasie, met betrekking tot beide proses en inhoud, 'n nadelige uitwerking op egpare se

vlakke van huwelikbevrediging het. Laastens het die resultate aangedui dat daar meer navorsing oor die huidige onderwerp binne die Suid-Afrikaanse en Afrika-konteks gedoen moet word, sowel as navorsing oor ander soorte verhoudings en huwelike, met betrekking tot bevredigingsvlakke.

Sleutelwoorde: kommunikasie, lae huwelikstevredenheid, huweliksontevredenheid, huwelikstevredenheid, vinnige oorsig

Preface

- This mini-dissertation forms part of the requirements for the completion of the degree Master of Arts in Clinical Psychology at the Potchefstroom Campus of the North-West University. It has been prepared in article format (manuscript to be submitted for publication) with three chapters and complies with the requirements identified by the North-West University in rule: A.4.4.2.9.
- Section 1 includes an in-depth literature overview that aims to present the reader with background information and the defining concepts that are relevant to this study. Section 2 presents the manuscript that will be submitted to the *Journal for Psychology in Africa* for possible publication. The manuscript itself will include a short introduction, the aims of the study and the methodology followed, as well as the results of the study and a discussion and conclusion on these. Finally, Section 3 presents a critical reflection by the researcher on the research process. The manuscript in Section 2, titled: *The relationship between communication and low marital satisfaction: A rapid review*, has been compiled in accordance with the requirements set out by the *Journal for Psychology in Africa*, with the goal of submitting it for publication.
- The manuscript and the reference list have been styled according to the specifications of the APA (American Psychological Association, 6th edition) publication guidelines for the purpose of examination. Where journal specifications differ from the APA publication guidelines, the appropriate amendments will be made before submission for publication.
- For the purpose of examination, the pages will be numbered chronologically from the table of content page, ending with the appendices.
- A language practitioner conducted the language editing of this mini-dissertation.
- Consent for the submission of this mini-dissertation for examination purposes (in fulfilment of the requirements for the Master of Arts Degree in Clinical Psychology) has been provided by the research supervisor, Prof Kobus Du Plooy.

- Lastly, this mini-dissertation was submitted to Turn-it-in, which established that its content fell within the norms of acceptability regarding plagiarism.

Permission to submit article for examination purposes

I, the supervisor of this study, hereby declare that the mini-dissertation entitled “*The relationship between communication and low marital satisfaction: A rapid review*”, written by Albertus Johannes Stephanus Nel, does reflect the research regarding the subject matter. I hereby grant permission that he may submit the article for examination purposes and I confirm that the dissertation submitted is in fulfilment of the requirements for the degree Master of Arts in Clinical Psychology at the Potchefstroom Campus of the North-West University. The article may also be sent to the *Journal for Psychology in Africa* for publication purposes.



Prof Kobus Du Plooy

Declaration by researcher

I, Albertus Johannes Stephanus Nel, hereby declare that this research manuscript, titled: *The relationship between communication and low marital satisfaction: A rapid review*, is my own effort and has never been submitted for examination. I further declare that the sources utilised in this dissertation have been referenced and acknowledged to the best of my abilities. Furthermore, I declare that this mini-dissertation was edited and proofread by a qualified language editor, as prescribed. Lastly, I declare that this research study was submitted to the Turn-it-in software system and a satisfactory report was received with regard to plagiarism.



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Proof of language editing



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Kind regards,

Simonete

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The relationship between communication and low marital satisfaction: A rapid review

SECTION 1: INTRODUCTION AND LITERATURE REVIEW

1.1 Background

In this study, a rapid review was conducted in order to have collected and synthesized the best available empirical research on the aspects of communication that contribute to low marital satisfaction. The first section of the mini-dissertation aims to orientate the reader to the key concepts under investigation, namely communication and low marital satisfaction. This is done by conceptualizing and providing general background information on communication, the marital relationship and marital satisfaction. These also include frequent references to relevant theory and literature where significant findings on the relationship between communication and low marital satisfaction are discussed. Thereafter, the aim and objectives of the research question in this study is delineated, the limitations are addressed and lastly, a description of the layout of the mini-dissertation is provided.

1.2 Orientation

The concepts of communication and relationships appear to be closely intertwined as “relationships are entailed in all acts of communication and communication is the central process of giving shape to relationships” (Sillars & Vangelisti, 2006, p. 331). Thus, it would be difficult to conduct research on one of these concepts without closely considering the other. Within the academic study of communication and personal relationships, communication can be seen as a relational state (Sillars & Vangelisti, 2006), or a means through which people construct and maintain their relationships by using a set of

communication skills that could contribute to the overall quality and satisfaction of the relationship (Burleson, Metts & Kirch 2000). Having said that, it is acknowledged that some may argue that there are certain factors other than communication that can also influence the level of a couple's marital satisfaction, such as love, emotional bonding, attachment styles, upbringing, time spent together, conflict resolution, problem solving, marital violence, sense of control, confidence, sexual satisfaction/dissatisfaction, stress factors related to finances, parenting and gender role expectations, to name but a few (Chanel 2013; Eğeci & Gençöz, 2006; Snyder, 1997). All of the aforementioned, however, involve communication in one form or another. Furthermore, theoretical and empirical research studies have shown that communication appears to be an important variable consistently associated with marital satisfaction, thereby playing a key role as a contributing factor in the prediction of marital outcomes (Carroll, Hill, Yorgason, Larson & Sandberg, 2013; Chanel, 2013; Eğeci & Gençöz, 2006; Gottman, Coan, Carrère & Swanson, 1998). It is for this reason that the present study focussed on communication in relation to marital satisfaction, with specific reference to aspects of communication within a heterosexual marriage that may contribute to low levels of marital satisfaction.

The communication between couples in romantic relationships, including marriage, falls within the context of interpersonal communication and seems to influence what both partners think and feel about each other, their relationship, and how they behave towards one another within the relationship (Vangelisti, 2002). Interpersonal communication can be understood in a variety of ways depending on one's point of punctuation or perspective, for instance Kuster et al. (2015) refers directly to the marital relationship in stating that "interpersonal communication can be understood as a sequence of goal-directed behaviours that reflect and express spouses' underlying motivations" (p. 262). De Vito (2013) takes his definition of interpersonal communication step further by defining it more broadly as "the

verbal and nonverbal interaction between two (or sometimes more than two) interdependent people” (p. 5), consisting of various elements, namely (1) source- receiver, (2) encoding-decoding, (3) messages, (4) channels, (5) noise, (6) contexts, and (7) ethics (De Vito, 2013), as illustrated by the following model of interpersonal communication:

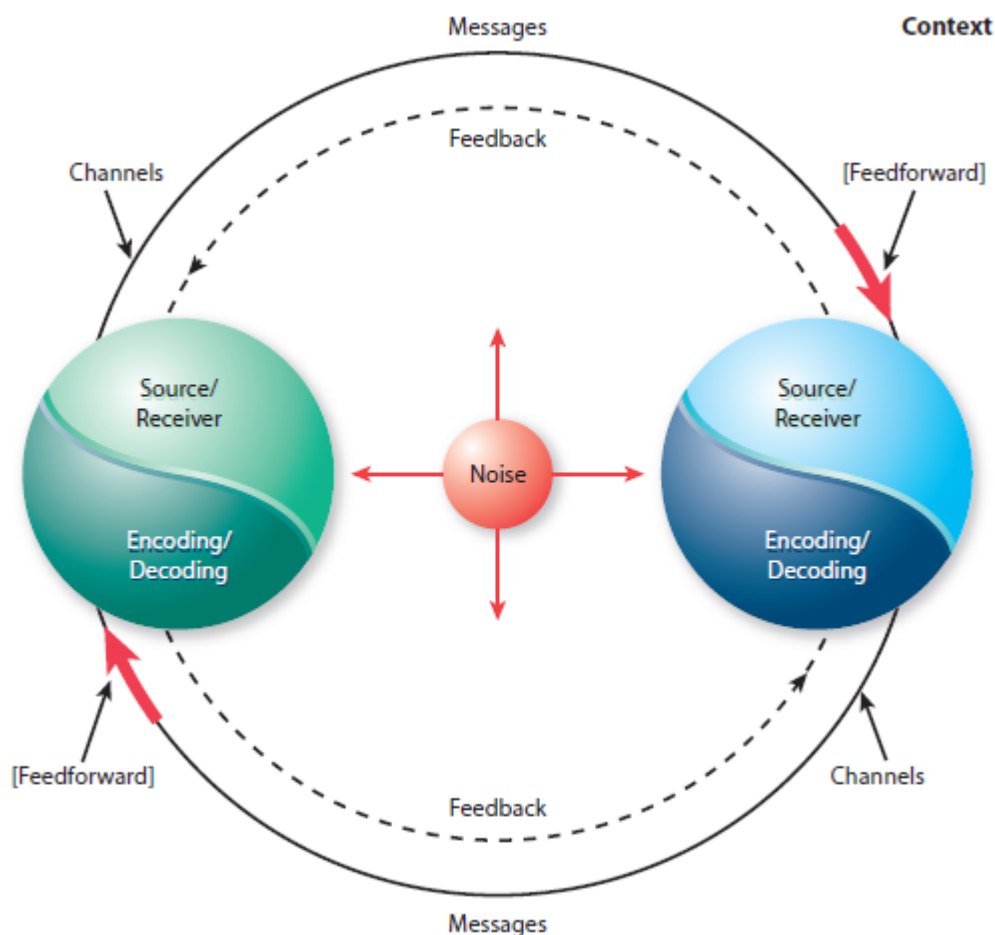


Figure 1: Model of Interpersonal Communication

Vorster (2011) also conducted research into the field of communication and relationships within the South African context and defined the process of interpersonal communication as “the accurate conveying of a message from one individual (the sender) to another (the receiver) through verbal and nonverbal signals, the message being the information that is being conveyed from the sender to the receiver” (p. 113). Burleson (2010) proposed another definition of interpersonal communication as referring to “a complex,

situated social process in which people who have established a communicative relationship, exchange messages in an effort to generate shared meanings and accomplish social goals” (p. 151). This message-centred approach implies that interpersonal communication is characterized by the mutual exchange of messages and behaviours in order to create mutual influence between people (Berger, 2014). During the process of communication, messages are encoded by the sender and decoded by the receiver through coordinated interactions and social perceptions in order to make sense of the social world (Berger, 2014). According to Berger (2014), the aim here is to create a shared meaning and accomplish certain social goals through the communication of messages that should serve to facilitate interaction and relationship management for the purpose of gaining compliance, acquiring information or entertaining for instance.

When considering the various aforementioned definitions of interpersonal communication, it becomes clear that in order for communication to occur between people, there needs to be a sender who encodes a message that he or she wants to convey to a receiver, who in turn needs to decode the received message so as to interpret, understand and respond to it based on that understanding. In the process, the receiver then becomes the new sender and the original sender, the receiver. This process continues during communication, thus creating a reciprocal, continuous circular process (Burleson, 2010; Vorster, 2011). This communication process can also be seen as goal directed behaviour (Kuster et al., 2015) as individuals are exchanging messages in an attempt to create shared meaning. These meanings contain internal states such as ideas, thoughts, feelings, beliefs (Burleson, 2010), information, attitudes (Vorster, 2011) and motivations (Kuster et al., 2015). The messages may also take different forms and do not only include spoken words, as such it may take the form of words (verbal signals) or gestures (non-verbal signals) (Burleson, 2010; Vorster, 2011) to convey meaning, i.e. internal states. The overall aim of the interpersonal communication process is to

reach a shared understanding, or consensus (Vorster, 2011) of meaning conveyed by the message, which Burleson (2010) identifies as social goals. The objective of a social goal may e.g. be to entertain, inform, persuade etc. Taking all of the aforementioned into account, “the essence of communication is getting the receiver and the sender ‘tuned’ together for a particular message” (Vorster, 2011, p. 112) in order to create a shared understanding, a consensus (Vorster, 2011) of the meaning contained within the message (Burleson, 2010).

What becomes evident from the above discussion is that there are many variables involved in the process of interpersonal communication, making it a complex process (Burleson, 2010) where misunderstanding and miscommunication can easily occur. According to Vorster (2011) the message communicated between the sender and the receiver can easily become distorted and the meaning can take on an entirely different one from that which was originally intended. This is due to the fact that the individuals involved in the communication process may not possess adequate communication skills required for effective communication (Vorster, 2011). As noted by Sillars and Vangelisti (2006), communication and relationships are very much intertwined as communication plays an important role in establishing and maintaining a relationship, such as a marriage (Burleson 2010; Burleson & Denton, 1997). It may even be said that all communication is behaviour, and all behaviour is communication, which in turn would mean that any relationship essentially is communication.

Within the realm of romantic relationships, such as marriage, spouses most often cite communication problems as one of the biggest relationship difficulties they encounter (Carroll et al., 2013; Gottman & Silver, 1999; Oka, Whiting & Reifman, 2015; Sanchez Bravo & Watty Martinez, 2017). According to the communication skills deficit model of marital distress (Burleson & Denton, 1997), spouses who experience marital distress lack the necessary skills to communicate effectively. Furthermore, couples in distress often struggle

with problem solving (Christensen & Shenk, 1991; Duba, Hughey, Lara & Burke, 2012; Gottman & Krokoff, 1989) and conflict resolution (Bradbury, Cohan & Karney, 1998; Duba et al., 2012; Gottman, 1994; Kiecolt-Glaser & Newton, 2001).

Various research studies have indicated that dissatisfied couples' ability to communicate effectively was inhibited by a form of communication skills deficit that contributed to their marital dissatisfaction (Carrère & Gottman, 1999; Gottman & Krokoff, 1989; Gottman & Levenson, 1992). Furthermore, Kuster et al. (2015) stated that ineffective interactions between spouses have been understood as skills deficits that could be predictive of relationship distress and dissolution. Therefore, couples in a marital relationship, where either one or both of the spouses lack adequate communication skills, will most likely struggle to resolve conflicts and engage in effective problem solving. As a result, this may lead to frequent misunderstanding and conflict between the marital partners affected. Over time, this may persist and lead to low marital satisfaction for one or both of the parties. If left unresolved, this may ultimately escalate to the dissolution of the marriage, in divorce.

Despite the challenges in navigating it effectively, of all the different forms of intimate relationships, the marital relationship remains one of the most commonly preferred relationships around the world. As it forms a core part of the theoretical basis of the present study, the following section will briefly describe the marital relationship at the hand of Huston's model (Helms, 2013).

1.3. Theoretical base

Huston's three-level model of marriage depicted in Figure 2 was selected to form the theoretical base for the present study (Helms, 2013). This is as it is a highly comprehensive model which consists of three central elements proposed for understanding the marital relationship, namely marital behaviour, individual properties and the macro-environment. All

three levels operate interactively to affect the course and outcome of a marriage, thus impacting on the overall stability, quality and satisfaction of it.

According to Helms (2013) the marital behaviour level serves as the foundation on which a marital relationship is built and represents intra-dyadic behavioural exchanges and patterns. This level is subdivided into micro and macro- behavioural patterns where communication, contained within the micro behavioural patterns of interaction and influences macro behaviour such as leisure, parenting and other spousal activities.

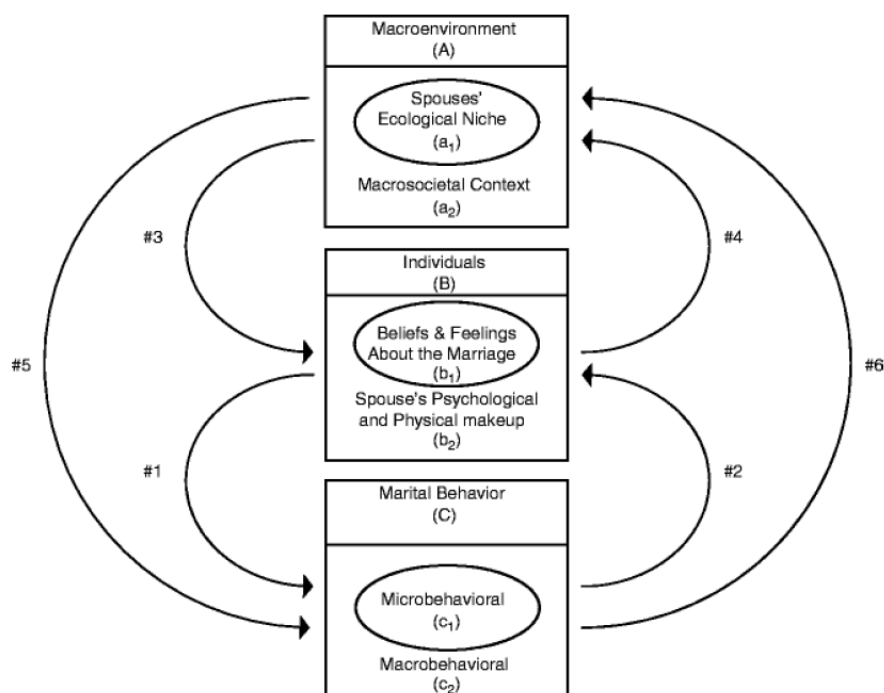


Figure 2: Huston's Three level model of Marriage

Thus, micro- behavioural patterns of marriage play out within the macro behavioural context. It is at this level where marital communication plays out and spouses engage or fail to engage in patterns of interaction, consequently creating understanding or misunderstanding through the messages that are being shared.

The aforementioned marital/ intra-dyadic behavioural exchanges further interact and influence the other two levels, namely individual properties and the macro environment (the

spouse's ecological niche such as co-workers, friends and the community contained within the macro-societal context, such as laws, policies, resources and economic opportunities). According to Helms (2013) the level of individual properties represents the spouses' individual characteristics and, more importantly, their feelings, beliefs, attitudes and evaluation of their marriage and each other, thus their experience of the quality and satisfaction of the marriage. Helms (2013) further state that the marital communication patterns of interaction, i.e. marital communication, influence the individual properties of the spouses, thus determining how they experience their marriage in terms of its quality and satisfaction. According to De Beer (2016), this model of marriage illustrates the complex dynamics of the marriage and shows where communication comes into play within these dynamics. It also highlights how communication plays a critical role in either promoting or hindering marital satisfaction which will be described in more detail in the next section.

1.4. General literature review

Marital satisfaction refers to the subjective and global appraisal of how happy and content spouses are with their marriage (Segrin & Flora, 2014), thus how they evaluate the overall experiences of their marriage in terms of how their needs, desires and expectations are being met within their marriage. It, therefore, essentially relates to the subjective experience of each spouse within the context of the marital relationship (Erhabor & Ndlovu, 2013). According to Segrin and Flora, (2014); Chanel, (2013); Iafrate, Bertoni and Donate (2013); Li & Fung, (2011), marital satisfaction is synonymous with marital well-being, marital adjustment, marital happiness and marital quality. Preference is, however, given to the term marital satisfaction as it highlights the subjective nature of the construct (Li & Fung, 2011). Chanel (2013) adds that marital satisfaction is a complex construct that is influenced strongly by the patterns of interaction, or communication, between couples.

In support of the aforementioned, Kuster et al. (2015) stated that decades of research on couples have identified a widely held proposition that relationship satisfaction and couple's behavioural exchanges, (i.e. their communication) are strongly associated. Furthermore, various studies have found a strong correlation between both so called 'positive', as well as 'negative' styles of communication and marital satisfaction (Bodenmann, Kaiser, Hahlweg & Fehm-Wolsdorf, 1998; Gottman, 1998; Karney & Bradbury, 1995; Rehman & Holtzworth-Munroe, 2007; Woodin, 2011). In their review study on the longitudinal course of marital quality and stability, Karney and Bradbury (1995) also found that communication behaviours can reliably distinguish between distressed and non-distressed couples.

According to Gottman (1993) the communication patterns within marriage has been identified as one of the most important aspects in determining the success of a marriage as certain communication behaviours directly influence marital satisfaction. Furthermore, Gottman (1994) maintained that there had to be a balance between the so called 'positive' and 'negative' behaviours between spouses in a marriage, where satisfied couples maintained a 5:1 ratio of 'positive' versus 'negative' behaviour, even during conflict or problem situations. By contrast, this compared to dissatisfied couples, who only maintain a ration 0.8:1 ratio, meaning there was more 'negative' than 'positive' behaviours in their interactions (Gottman, 1993). Examples of 'positive' behaviours can include: agreeing, laughing, humour and smiling, while 'negative' behaviours can be: complaining, criticizing, blaming and denying responsibility (Lavner & Bradbury, 2012). Based on these studies, the quality of marital communication appears to be positively correlated with the levels of marital satisfaction which is subjectively experienced by both marital partners.

Carroll et al. (2013) explains that couples communicate differently within their marriages and the manner through which they communicate could be an indication of the

quality, stability and satisfaction of their relationship. Married couples who experience high levels of marital satisfaction can be distinguished from those experiencing low levels of marital satisfaction by considering the way these couples interact with one another within the marital relationship. The latter relates to Gottman's (1994) findings that the patterns of communication between non-distressed and distressed couples were qualitatively different, with non-distressed or happy couples. Happy couples can be described as couples where both partners are satisfied with the marriage, whereas distressed or unhappy couples refer to couples where one or both partners are dissatisfied with the marriage (Driver, Tabares, Shapiro, Young Nahm & Gottman, 2003). According to Bischoff (2002), "Gottman and his research team have made the most significant contributions to the research on marriage and marital therapy" (p. 10) and, in so doing, have provided the most comprehensive understanding of marital interactions, destructive patterns in marriage, as well as characteristics that separate stable from unstable marriages.

Traditionally, Gottman's research focused on marital conflict as an aspect of both happy and unhappy marriages and how this conflict is handled through the process of communication (Driver et al., 2003). Gottman et al. (1998) explored communication processes that differentiated couples who experience high levels of marital satisfaction from those who experience low levels of marital satisfaction and found there were certain so called 'negative' communicative behaviours that increased the likelihood of marital dissatisfaction and the likelihood of divorce among these couples.

In his research and clinical practice on marriage and communication, Gottman (1993) also focussed on seeking a better understanding of the aspects of communication that contribute to low marital satisfaction, i.e. 'negative' communication behaviours (, Spann, McCary & Kimberly, 2017). Gottman (1993) identified four different conflict behaviours that constitute 'negative' communication behaviour, namely criticism, defensiveness, contempt,

and stonewalling, which he termed ‘the four horsemen of the apocalypse’. These negative communication behaviours are a consistent characteristic of distressed couples and may be strong predictor of low marital satisfaction and, in some cases, impending divorce (Driver et al., 2003). In addition to the aforementioned, he also found that the presence and impact of the ‘four horsemen of the apocalypse’ during an interaction between partners causes ‘emotional flooding’, a state where one or both partners become emotionally and physiologically overwhelmed, consequently unable to think clearly and rationally or participate in constructive communication any further (Driver et al., 2003; Gottman 1994). This leads to a pattern of negative and ineffective communication interactions that ultimately lead couples to experience low levels of marital satisfaction and, if unchanged, significantly increases their risk for divorce.

Bodenmann et al. (1998) found strong support for the correlation between ineffective interaction patterns and lower relationship satisfaction, which corresponded with the findings of Gottman and Krokoff’s (1989) research, as well as Gottman’s (1994) research regarding the marital processes and outcomes that predict divorce. In a more recent study, Siffert and Schwarz (2010) also agreed that there seems to be a link between couples’ so called ‘negative’ communication patterns and the subjective experience of lower levels of marital satisfaction by one or both of the marital partners who are caught up in such a communication pattern. In their study, Carroll et al. (2013) examined couple’s communication as a mediator between work-family conflict and marital satisfaction, and found that criticism, defensiveness, contempt and stonewalling, (‘the four horsemen of the apocalypse’) along with ‘emotional flooding’ was predictive of relationship distress and lower marital quality. This corresponds with Gottman’s (1993, 1994) findings regarding the impact of ‘the four horsemen’ and ‘emotional flooding’ on marital satisfaction.

Furthermore, in a study by Hooper et al. (2017), the authors found that any one of ‘the four horse men of the apocalypse’ along with ‘emotional flooding’ detrimentally impacted a couple’s relationship satisfaction regardless of demographic differences. Lavner, Karney & Bradbury (2016) further stated that ‘the four horsemen of the apocalypse’ should prove destructive to relationship satisfaction and found that poor communication, i.e. more ‘negative’, less ‘positive’ and less effective, was associated with lower levels of marital satisfaction. These findings indicate that Gottman’s research appears to remain relevant today on a theoretical level, practical level, as a research topic, as well as for those who treat couples with marital problems, such as psychotherapists.

According to Sanchez Bravo and Watty Martinez (2017), not only does the amount of communication between couples, but also the manner through which they communicate, impact on their levels of marital satisfaction. They further state that more attention needs to be focused on relationship problems within the current field of psychology - particularly poor, inefficient and overall ‘negative’ communication which generate relationship problems, aggravate arguments and create distance between couples, ultimately decreasing levels of marital satisfaction and increasing the risk of divorce (Sanchez Bravo & Watty Martinez, 2017). ‘Negative’ communication (Oka et al., 2015), a lack of or failure to communicate (Abbasi & Afsharinia, 2015) or high levels of destructive communication (Carroll et al., 2013) are all common interactional problems which can be classified as both ‘negative’ and ineffective communication behaviours, often cited by unhappy couples, who enter into therapy because they are experiencing marital problems or low levels of marital satisfaction.

Other research has also found a link between communication and degrees of marital satisfaction experienced by marital partners. In one such study that was conducted by Markman, Rhoades, Stanley, Ragan & Whiton (2010), data was collected from couples over their first five years of marriage, and found that higher levels of ‘negative’ communication

behaviour was a strong predictive factor for the decline in marital satisfaction. They also stated that “negatives may be stronger risk factors than the positives are protective factors” (Markman et al., 2010, p. 296), meaning that the effects of ‘negative’ communication may be a better predictor of marital outcomes as opposed to so called ‘positive’ communication.

According to Duba et al. (2012) and Kiecolt-Glaser and Newton (2001) ‘negative’ communication diminishes couples’ ability to solve problems and resolve conflict, which in turn affects the relationship satisfaction experienced by spouses. Segrin and Flora (2014) further indicated that most spouses experience changes in their levels of satisfaction over the course of the marital relationship, and in some cases these changes are so severe that the couples divorce. Gottman and Silver (1999) predicted divorce with a 91% accuracy, purely based on observations of marital communication between spouses. Closely related to the findings of Gottman and Silver (1999), research on the models of change in marital satisfaction (Caughlin, Huston & Houts, 2000; Huston, Caughlin, Houts, Smith & George, 2001) found that the *Enduring Dynamics model* postulates that individuals who marry have some awareness of their spouse’s perceived ‘shortcomings’ and that the patterns of interpersonal communication that are established at the beginning of the relationship, i.e. during the courtship phase, remain stable and mostly unchanged throughout the course of the marital relationship (Segrin & Flora, 2014). Therefore, even though a marital couple’s levels of satisfaction may alter over time, their communication patterns appear to remain relatively stable. From these findings it appears that “the communication behaviours that will eventually lead to the demise of the marriage are already in place before the husband and wife marries” (Segrin and Flora, 2014, p. 446).

1.5. Problem statement

Based on the literature discussed on communication, marriage and marital satisfaction up to this point, it appears evident that these constructs are very much intertwined and strongly influence one another. Furthermore, the process of interpersonal communication appears to be complex and all the more so as it pertains to the dynamics of marital relationships, given that many spouses cite communication as a central problem impacting detrimentally on their marital satisfaction. When considering that the divorce rate has globally increased in recent years (De Paulo, 2019), as well as in South Africa, where the latest divorce data indicated that 25 284 divorces were granted in 2018 (Statistics South Africa [Stats SA], 2018), it becomes important to obtain a better understanding of why this is occurring. This is as divorce has been shown to have multiple detrimental effects on the mental health of all individuals affected by it (Carrère, Buehlman, Gottman, Coan, & Ruckstuhl, 2000; Carroll et al., 2013; Gottman & Silver, 1999). Where divorce can be prevented by means of effective intervention by mental health professionals such as psychologists, it becomes important to determine what research have identified as factors that will contribute to lowering marital satisfaction. In such a way, this can inform evidence-based interventions to assist in addressing the problem of increasing numbers of divorces around the world. In such a manner, the present study sought to uncover the aspects of communication that may contribute to low marital satisfaction from the current available literature by means of a rapid review.

Despite the apparent wealth of literature which focused on the relationship between ‘positive’ and ‘negative’ communication and marital satisfaction and/or dissatisfaction, few were found to attempt to make a clear distinction between the two and to focus specifically on ‘negative’ communication in relation to levels of marital satisfaction. In particular, no systematic review to summarize such findings could be identified. In a previous study by Du Plooy and De Beer (2018), a related rapid systematic review was done, however, it

investigated the relationship between communication and high levels of marital satisfaction. As this study had focussed on communication aspects which contribute to high levels of marital satisfaction, the present study attempted to replicate the aforementioned study, but focussed on communication aspects instead, which contribute to low levels of marital satisfaction. In such a manner, the present study hopes to build on the aforementioned research done by Du Plooy and De Beer (2018) by providing a comprehensive illustration of communication activities which contribute to low levels of marital satisfaction and attempt to provide a clear distinction between ‘positive’ and ‘negative’ communication.

1.6. Significance

It was envisioned that the findings obtained from the current research study will serve to contribute both on a theoretical and practical level in relation to the topic while addressing the problem described in the problem statement. Firstly, it is hoped that these findings will build upon existing research regarding the relationship between communication and low levels of marital satisfaction. Secondly, it is hoped that it might provide therapeutic insight and practical assistance to mental health practitioners involved in the field of couple's therapy and marriage counselling. In this manner, it is hoped that the present findings will assist therapists involved in this domain by aiding them to be able to more clearly identify and alter those aspects of communication which may be contributing to the experience of low levels of marital satisfaction among their clients. Ultimately, it is hoped that this will prevent certain couples in crises to divorce and the detrimental mental health effects associated with it.

1.7. Research question

What evidence is available from empirical literature on communication and low marital satisfaction?

1.8. Aim

To rapidly review and synthesize the best available empirical research evidence of the aspects of communication that contributes to low levels of marital satisfaction.

1.9. Research objectives

The following objectives will be used in an attempt to achieve the aim of this study:

- i. Rapidly review research on the aspects of communication that contribute to low levels of marital satisfaction.
- ii. Synthesize the findings.
- iii. Make recommendations based on the findings which could potentially be used both on a theoretical and practical level, while taking into account the limitations of this research: On a theoretical level, this study aims to summarize the best available research evidence whilst contributing to the research on communication aspects that contribute to low levels of marital satisfaction. On a practical level, this study aims to assist those mental health practitioners who treat couples, such as psychologists, to be able to identify and alter those aspects of communication which contribute to the experience of low levels of marital satisfaction among marital partners, more clearly. In doing so, it is hoped that it can prevent divorce in some couples in distress, as well as to prevent suffering the detrimental mental health effects associated with it.

1.10. Definitions

The key concepts are clarified here in order to provide the reader with the understanding required to engage with the research presented:

Communication: For the purpose of this research and in keeping with the definition used by De Beer (2016), for consistency across the research, interpersonal communication is defined as “the accurate conveying of a message from one individual (the sender) to another (the receiver) through verbal and non-verbal signals, the message being the information that is being conveyed from the sender to the receiver” (Vorster, 2011, p. 113).

Marital Satisfaction: Marital satisfaction refers to the subjective and global appraisal of how happy and content spouses are with their marriage (Segrin & Flora, 2014), thus, how each individual spouse subjectively evaluate the overall experiences of their marriage in terms of how their needs, desires and expectations are being met within the relationship (Erhabor & Ndlovu, 2013).

Marriage: Marriage can be defined as “the legally or formally recognized union of two people as partners in a personal relationship” (Lexico, n.d.). ¹

Rapid Review: Rapid reviews can be described as a method of synthesising information from different studies examining similar questions, in order to produce information over a shorter period of time, by streamlining and simplifying certain components of the systematic review process all the while retaining rigour in the selection and appraisal of studies. A rapid review, therefore, streamlines the methods involved in systematic reviews in order to synthesize evidence in a shorter timeframe (Ganann, Ciliska & Thomas, 2010; Grant & Booth, 2009; Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012; Schünemann & Moja, 2015).

1.11. Delineation

The study will focus exclusively on married heterosexual couples since the present study aims to build on the research of Du Plooy and De Beer (2018), but will focus instead on

¹ Traditionally, this definition has referred to such a union between a man and a woman. Despite this limitation, this definition was still selected to be utilized for the purpose of this study as it focused specifically on married heterosexual couples. The researchers acknowledge that in contemporary times other types of marriages, such as same sex marriages are, however, both prevalent and relevant, it is recommended that these types of marriages form the focus of similar, yet other research projects in the future.

communication aspects which contribute to low levels of marital satisfaction. The researchers chose to focus exclusively on heterosexual couples similar to what Du Plooy and De Beer (2018) had done. It is, however, acknowledged that within most modern societies, many alternative forms of relationships exist that are different from the more traditional heterosexual marital relationship, such as same sex relationships, same sex marriages, cohabiting heterosexual relationships and polyamory, to name but a few (Hennigan, 2013; Light & Omori, 2013).

According to Chanel (2013) the institution of marriage remains one of the building blocks of society which traditionally has been one of the legitimate options for couples within which to organise themselves (Helms, 2013). It has also been described as the most fundamentally important relationship providing structure for starting a traditional family (Larson & Holman, 1994). Therefore, although it is acknowledged that many alternatives to heterosexual marital couples currently do exist, Du Plooy and De Beer (2018) argued that it would be nearly impossible to include and evaluate all of these alternative relationships in a single study. It is also hoped that the findings of the present study may provide a baseline for further related studies that will focus on the aforementioned alternative forms of relationships. For this reason, alternative couples fell outside the scope of the present study.

As the present study aimed to replicate the study conducted by Du Plooy and De Beer (2018), it only included articles ranging over a ten year period from 01/01/2005 to 31/12/2015, as it was also done by Du Plooy and De Beer (2018). Finally, a rapid review was selected in the present study in keeping with the research approach by Du Plooy and De Beer (2018) and when considering that while conducting a rapid review, a researcher aims to work in a timely and cost effective manner, this was regarded as a more feasible approach for the purpose of a mini-dissertation that the first author needed to complete in order to complete the Master of Arts in Clinical Psychology course.

1.12. Limitations

As mentioned in the delineation discussion, the present study did not consider research on alternative types of relationships. Nevertheless, Kurdek (1998) and Gottman et al. (2003) found that certain alternative relationships such as gay and lesbian relationships essentially operated on the same principles as heterosexual relationships. This cannot be assumed for the presents study with regard to aspects of communication that contribute to lower relationship satisfaction levels, however, it is hoped that this study will serve as a starting point for further research on the topic in relation to alternative couples.

As was also the case in the study by Du Plooy and De Beer (2018), only a limited number of databases could be searched for the present study due to availability, as well as financial and time constraints. Secondly, rapid reviews are done within a shorter timeframe when compared to other types of reviews, thereby running the risk of introducing bias or excluding important findings (Grant & Booth, 2009; Schünemann & Moja, 2015). Lastly, only English and Afrikaans articles could be consulted for the research as the researchers are only proficient in these two languages. In an effort to bound the effects of the aforementioned limitations, the following section will highlight the steps that were taken by the researchers to ensure scientific rigour and high ethical standards as far as possible.

1.13. Scientific Rigour and Ethical considerations

1.13.1. Scientific Rigour

This study was conducted in a carefully planned and transparent manner with the aim of upholding a strong scientific base. Furthermore, through the participation of two independent reviewers, the study's trustworthiness and scientific rigour was enhanced. With regard to this study, inter-rater differences were handled through the participation of two

independent reviewers, the researcher and the study leader, as well as a third external reviewer who would have assisted in resolving disagreement between the two primary reviewers in the event that this may have been required. The aim was to ensure “inter-reviewer reliability” (Stewart, 2014, p. 585) and make the study more trustworthy and enhance transparency and thoroughness (Petticrew and Roberts, 2006). In addition, agreement between reviewers, i.e. inter-reviewer reliability was calculated (Shamseer et al., 2015). For this study inter-rater reliability i.e. inter-reviewer reliability referred to the degree of agreement between two reviewers who had independently reviewed and appraised selected articles at the same time (Gravetter & Forzano, 2009). The agreement between reviewers was calculated through a Cohen’s Kappa rating, providing a quantitative measure of agreement between reviewers. Articles that attained a rating of substantial to almost perfect agreement, between 0.61 to 0.99, were included (Viera & Garrett, 2005), as reflected in Appendix C.

The risk of bias could also have had a remarkable impact on this rapid review’s validity. For this reason, the risk of bias was addressed through careful consideration of which articles were included for this study. Thus, the present study included articles that had different context: both national and international studies, written in both Afrikaans and English; containing various research methods and selectively reporting on all the results (De Beer, 2016).

1.13.2 Ethical Considerations

Given the nature of this research, no human participants were included for this study, thus, the ethical risk was regarded to have been minimal. With regard to the risk/benefit ratio, the current study seemed to hold more potential benefits than possible risks in that it aimed to identify the best available evidence on aspects of communication that contribute to low marital satisfaction, which could add value to the field of psychology, both theoretically and practically. According to Wager and Wiffen (2011) a review should be done in a responsible

way in order to ensure integrity and avoid misconduct through the promotion of a transparent research process. Although reviews are a form of secondary research, researchers conducting a review should not simply accept that studies to be included in their review have adhered to the fundamental criteria of ethics (Vergnes, Marchal-Sixou, Nabet, Maret & Hamel, 2010). As such, ethical assessment formed an intrinsic part of this study in order to increase reliability and validity and minimize bias. This was done through the following means:

- i. Only published research studies of high quality from credible and reputable journals/sources, were used.
- ii. Redundant publication was avoided by submitting the article to an accredited academic journal.
- iii. The input and contribution of each author involved in the study was recorded.
- iv. All the activities conducted by the researcher, study leader and third reviewer were documented in a pre-determined document, which is available on request. Had any conflict of interest arisen that could cause bias, the reviewer would have reported this, and the necessary action would have been taken.
- v. The aim of this study was to report on the best available evidence on the topic under discussion and not to evaluate a particular type of intervention, as is the typical case with systematic reviews. The data was extracted by two independent reviewers, with a third reviewer available for consultation, had there been any disagreement.
- vi. Should any form of plagiarism or fraudulent research have been suspected during the course of the reviewing process, all be it an entire article or a substantial section of an article, it would have been identified and reported to the publishers of the journals immediately.

- vii. This study was submitted for ethical approval to Compress (Community Psychological Research), a scientific committee at the North-West University.

The researcher further received ethical training during his honours and master's degree courses and completed TREE- ethics training. This enabled the researcher to uphold scientific integrity in an attempt to maintain a transparent, rigorous and trustworthy research process throughout the review.

1.14. Brief chapter overviews

The mini-dissertation will be submitted in article format, consistent with the General Regulation A.13.7 of the North-West University and is structured as follows:

Section 1

This section consists of the following:

Introduction, orientation, theoretical base, general literature review, problem statement, significance, research question, aim, research objectives, definitions, delineation, limitations, scientific rigour and ethical considerations, a brief chapter overview, conclusion and a reference list.

Section 2

This takes the form of a research article, entitled, *The relationship between communication and low marital satisfaction: A rapid review*. This article will be submitted for publication in the *Journal for Psychology in Africa*. This section, as well as its accompanying reference list included at the end of the section, was compiled in accordance with the guidelines of the *Journal for Psychology in Africa* indicated in Appendix A of the dissertation.

Section 3

Critical reflection.

Section 4

Appendices.

1.15. Conclusion

This section provided the background to the present study by highlighting, at the hand of relevant research, how communication plays a vital role in influencing the levels of marital satisfaction subjectively experienced by heterosexual marital couples. Based on the literature review, it seemed that the manner in which marital couples interact with one another may be strongly predictive of the quality, stability and overall outcome of the marriage as stated above (Carroll et al., 2013; Egeci & Gençöz, 2006; Gottman et al., 1998). It further appeared that happily married couples differ from unhappily married couples in terms of, amongst other factors, the way in which they interact with one another in that unhappy or distressed couples utilized certain ‘negative’ communication behaviours or appeared to choose to focus on ‘negative’ aspects of communication in their interaction with their spouses. This seemed to hamper them from resolving conflict or to solve problems in their relationship, consequently leading to possible decline in the subjectively experienced levels of marital satisfaction and, in extreme cases, resulting in divorce (Markman et al., 2010). After the context for the present study had been created in this section, the following section will highlight the results of the present study in the form of a research article.

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Section 2**MANUSCRIPT FOR EXAMINATION****Manuscript title, authors, and contact details:**

Title: The relationship between communication and low marital satisfaction: A rapid review

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Abstract

This rapid review aimed to investigate the aspects of communication in heterosexual marriages that contribute to low levels of marital satisfaction. The study was conducted independently by two researchers over a four-week period and included 13 high-quality articles in the final review. Findings indicated that detrimental processes, including the demand/withdraw pattern of communication, destructive conflict styles, ineffective pre-or early marital communication, and ineffective problem-solving, along with detrimental content, including conflict surrounding sex and financial stress, were all found to contribute to lower levels of marital satisfaction. The evidence suggests that psychotherapists working with couples should aim to focus on both the process, as well as the content of communication in their interventions. Furthermore, it is also recommended that similar studies be done within the South African and African context, as well as on other types of marriages, such as same sex marriages.

Keywords: communication, low marital satisfaction, marital dissatisfaction, marital satisfaction, rapid review

Introduction

Decades of marital research, dating back to as early as the 1930's has been dedicated to understanding what distinguishes a happy marriage from an unhappy one, or put differently, what distinguishes a satisfying marriage from a dissatisfying one? (Gottman & Silver, 1999; Madahi, Samadzadeh & Javidi, 2013). This question appears to remain relevant in contemporary times as having and maintaining a healthy marital relationship has been found to remain one of the most important sources contributing to a couple's overall wellbeing and satisfaction with life (Bloch, Haase & Levenson, 2014; Chanel, 2013). Numerous factors such as love, affection, emotional bonding, attachment styles, upbringing, time spent together, conflict resolution, problem solving, marital violence, a sense of control, confidence, sexual satisfaction /dissatisfaction, stress factors related to finances, work pressure, parenting, and, gender role expectations, to name but a few, may however all influence the level of marital satisfaction experienced by couples (Chanel, 2013; Egeci & Gençöz, 2006; Snyder, 1997).

Among all of these factors, a wealth of research maintains that communication plays a vital role in the level of satisfaction experienced in couples' relationships. This is as it plays a critical role in the levels of intimacy, commitment and support experienced in relationships, including and especially, marital relationships (Sternberg, 1986, 2006; Reis & Patrick, 1996) as the essence of the marital relationship lies in the daily communication patterns in which couples engage, whether it be positive or negative (Noller & Feeney, 2002). These patterns are also evident in how conflict and problems are either resolved, or not resolved, in relationships (Chanel, 2013; Heyman, 2001). Overall, research on marital couples have adopted the premise that relationship satisfaction is strongly associated with the behaviours that partners exchange through communication between spouses within the relationship (Bodenmann, Kaiser, Hahlweg & Fehm- Wolfsdorf, 1998; Karney & Bradbury, 1995).

Therefore, the quality of a couple's communication seems to impact strongly on the marital relationship in terms of the levels of marital satisfaction experienced by the spouses. According to Wijnberg-Williams, Van de Wiel, Kamps and Hoekstra- Weebers (2015), spouses who engaged in more effective communication towards each other have been found to experience higher levels of marital satisfaction and less relational problems, whereas ineffective marital communication has been associated with lower levels of marital satisfaction (Siffert and Schwarz, 2011). According to Gottman (1994), the patterns of communication between non-distressed and distressed couples are qualitatively different. The way in which couples communicate may, as a result, be indicative of the overall quality and stability of their relationship. Furthermore, the quality of their communication is therefore predictive of the levels of marital satisfaction experienced by marital partners (Holman, 2001). This is in line with a long tradition of research and theory on marital relationships implicating communication as a central contributing factor of marital discord (Christensen & Shenk, 1991).

When distinctions are made between what sets happy, satisfied marriages apart from unhappy, dissatisfied marriages, studies indicate that distressed, unhappy and dissatisfied couples, compared to non-distressed couples, are more inclined to engage in more ineffective, destructive communication behaviours which some authors label as 'negative' (e.g., complaining, criticizing, blaming, denying responsibility) and less effective communication behaviours labelled by some authors as 'positive' (e.g., agreeing, laughing, using humour, smiling, compromising, empathising, apologising, accepting responsibility) (Karney & Bradbury, 1995; Lavner & Bradbury, 2012).

Ineffective, destructive communication patterns such as criticism, defensiveness, contempt and stonewalling, commonly referred to as the 'four horsemen of the apocalypse', correlate negatively with marital satisfaction and could set a couple up for divorce (Gottman,

1994; Gottman & Levenson, 1992). Gottman (1994) further found that most couples in stable, satisfying marriages engaged in a five to one, 'positive' to 'negative' ratio in the process of their communication interactions. In unstable, dissatisfying marriages, the communication ratio was found to be less than one 'positive' for every negative interaction between distressed couples. This suggested that in sequences of more 'negative' communication by the partner, 'positives' become less prevalent and, consequently, spouses communicate 'negatively' in return (Kuster et al., 2015). As this pattern of 'negative' communication is reciprocated and escalates, it becomes increasingly difficult to stop once started. In the process, the partners become entrapped in an ineffective pattern of continuous 'negative' interactions, which results in both spouses subjectively feeling misunderstood, angry, disappointed and, if left unchanged, it will most likely leave one or both parties unwilling to engage with each other any longer in the future (Kuster et al., 2015). Gottman (1979) also reported that distressed couples displayed more rigidity in their interaction structures, which meant that they were less open to inputs that could lead to change. Overall, marital satisfaction will decline where the patterns of interaction are all marked by more 'negative' communication and less 'positive' communication, with couples continuing to communicate 'negatively' once they have started to do so (Markman, Rhoades, Stanley, Ragan & Whitton 2010).

How marital couples communicate with each other, or the process of their communication, therefore, has significant implications for the levels of satisfaction they subjectively experience within their relationships. According to Noller and Feeney (1998), as well as Mayer (2000), poor, ineffective communication skills tend to develop, maintain and intensify relationship conflicts and could be detrimental to relationship satisfaction. In addition, the content, or what the couple talks about, may also effect the levels of marital satisfaction experienced by the marital partners (Harary & Batell, 1981). If left unchanged,

this may ultimately lead to divorce as, according to Gottman and Gottman (2017), communication between spouses matter a lot when predicting divorce. In their study, Gottman, Coan, Carrère and Swanson (1998), for instance, found that couples who divorced, displayed more ‘negative’ communication and less ‘positive’ communication early in their marriages. In addition, couples heading for divorce also displayed frequent occurrences of ‘the four horsemen of the apocalypse’ in their interactions (Gottman, 1994). Therefore, divorce appears to be common among couples who display frequent ‘negative’ communication behaviours and experience low levels of satisfaction (Lavner & Bradbury, 2012). Thus, it seems that both the process and content of communication could have severe implications for the relational satisfaction experienced by couples and whether their relationship may end in divorce.

Millions of people suffer from the adverse effects of destructive conflict, marital dissatisfaction and distress which ultimately culminate in divorce each year, around the world (Markman et al., 2010). Adults and children alike are affected by the consequences of marital distress and family disintegration (Booth & Amato, 2001; Halford & Bouma, 1997). Marital distress, separation and divorce could hold strong detrimental consequences for both spouses with regard to their overall wellbeing, such as physical ailments like weakened immune systems and mortality from diseases, heart conditions, high blood pressure and accident proneness, as well as increased risk for developing psychopathology, including depression, anxiety, violence, psychosis, substance abuse and, in extreme cases, suicide or homicide (Carrère, Buehlman, Gottman, Coan & Ruckstuhl, 2000; Gottman; 1998; Gottman & Silver, 1999). Children are equally at risk of developing general health problems and depressive symptoms as a result of divorce, along with social withdrawal, academic underperformance, as well as various conduct-related problems, all due to their parental marital distress and dissatisfaction, as well as conflict and disruption that co-incides with divorce (Gottman &

Silver, 1999; Wallerstein, Lewis & Blakeslee, 2000). Interestingly, refusing to opt for divorce while languishing in an unhappy marriage may also cause not only the spouses in the marriage to experience constant physical and emotional stress, but the family as a whole as well (Gottman & Silver, 1999). Furthermore, Hawkins and Booth (2005) found that a long-term marriage characterized by low marital satisfaction detrimentally affected both spouses' overall physical and psychological well-being. According to Gottman (1998), research done by psychologists in the field of marriage has identified seven dysfunctional patterns implicated in low marital satisfaction, namely (1) greater negative affect reciprocity, (2) lower positive to negative ratios, (3) less positive sentiment override, (4) criticism, defensiveness, contempt and stonewalling, (5) wife demand-husband withdraw pattern, (6) long lasting negative attributions about the partner and negative narratives about the marriage and the partner and (7) greater physiological arousal during conflicts. The current study hoped to build on these findings by investigating the relationship between communication and low levels of marital satisfaction.

Research question:

What evidence is available from empirical literature on communication and low marital satisfaction?

Aim:

To rapidly review and synthesize the best available empirical research evidence of the aspects of communication that contributes to low levels of marital satisfaction.

Objectives:

The following objectives were set in an attempt to achieve the aim of this study:

- i. Rapidly review research on the aspects of communication that contribute to low levels of marital satisfaction.
- ii. Synthesize the findings.
- iii. Make recommendations based on the findings which could potentially be used to make both a theoretical and practical contribution.

Method

For the purpose of this study, the researchers decided to conduct a rapid review in order to achieve the aim and objectives of this research, since it provides a strong and comprehensive overview of previous research with regard to what is known, still unknown and how information differs across such studies (Gough, Thomas & Oliver, 2012). Ganann, Ciliska and Thomas (2010), Grant and Booth (2009), Khangura, Konnyu, Cushman, Grimshaw and Moher (2012) and Schünemann and Moja (2015) all agree that rapid reviews can be described as a method of synthesising information from different studies examining similar questions, in order to produce information over a shorter period of time, by streamlining and simplifying certain components of the systematic review process all the while retaining rigour in the selection and appraisal of studies. A rapid review therefore streamlines the methods involved in systematic reviews in order to synthesize evidence in a shorter timeframe (Ganann et al., 2010; Schünemann & Moja, 2015). The rationale for conducting a rapid review is to work in a timely and cost-effective manner in order to produce scientific research that could highlight new areas of research and add practical value to those working in practice. Rapid reviews are systematic in that they adhere to the core principles of systematic reviews through the implementation of explicit methods and by reducing the risk of bias in the inclusion, assessment, and synthesis of studies relating to a specific question, while aiming to be transparent and rigorous throughout the review and

research process (Catalá-López, Stevens, Garrity & Hutton, 2017; Grant & Booth, 2009; Schünemann & Moja, 2015; Tricco et al., 2015).

Procedure and ethics

From an ethical perspective, transparency was assured by using the PRISMA criteria (Tricco et al., 2015) as it is regarded as best practice (Schünemann & Moja, 2015) and helps improve on the reporting of rapid review studies (Moher, Liberati, Tetzlaff & Altman, 2009). For the purpose of this study, articles were reviewed over a four-week period after ethical approval had been obtained from the North-West University Health Ethics Committee (Approval number: NWU-00488-19-A1). Furthermore, the process was guided by the following seven steps set out by Perestelo-Pérez (2013), in order to ensure that the research adhered to the core principles of a systematic review (Catalá-López et al., 2017; Schünemann & Moja, 2015; Tricco et al., 2015).

Step 1: Formulation of the problem

According to Perestelo-Pérez (2013) a clear and specific research question needs to be formulated and contextualized through empirical background research to justify the study, as well as its contribution to the field of knowledge. This step entailed looking at existing research on the topic in order to identify gaps in the research and to ensure that this research was not duplicated in any way from past research studies. A librarian at the North- West University was consulted to conduct a scope search. The search yielded 5,649 studies, indicating that there were relevant search results for the aim of the study and that the study was feasible to conduct. This step in the process also allowed the researcher to adjust the keywords, use the appropriate keywords for the search and refine the inclusion and exclusion criteria.

Step 2: Search for information

The next step was to identify the best available scientific evidence that enabled the researcher to answer the research question. It is recommended that the researcher use multiple databases for their search with special consideration to those databases that are specific to the field of study (Perestelo-Pérez, 2013). Taking the final keywords (see *Figure 1*), the North-West University One Search portal was used to search through relevant published and unpublished articles, as the portal gives access to a wide variety of electronic databases that readily provide various sources and available literature. A North-West University librarian was consulted once again to assist in the search strategy of different electronic databases. The portal, which consists of 374 databases, is an established, multi-disciplinary research platform that includes a wide variety of up to date, peer-reviewed journals.

The subsequent databases pertain specifically to the field of psychology and were searched accordingly; Academic Search Premier, CINAHL, Cochrane library, EBSCOHost, PsychARTICLES, PsychINFO, Soc INDEX, and ScienceDirect. In addition **Google scholar** was also searched to ensure that all the best available scientific evidence was identified. Perestelo-Pérez (2013) suggest that the components of the research question be transferred to the language of the databases that will be searched through keyword and Boolean configurations, truncation symbols (*) and specific field parameters (title, abstract, author, journal) and limiters (date of publication, type of publication, study type, language and population age, etc.). The keyword and Boolean configurations were inserted into the OneSearch portal, using operators such as AND, OR, and NOT in combination with the specific field parameters, limiters and inclusion and exclusion criteria for the current study.

Field	Key words
All Text	<i>“Communication”</i>
	AND
All Text	<i>“Low Marital Satisfaction” OR “Marital dissatisfaction” OR “Marital Satisfaction”</i>

Figure 1: Final keywords

Step 3: Preselection of articles and selection of studies included

The next step in the rapid review process was to preselect potentially relevant articles and, subsequently use the final articles that were selected, for inclusion in the review.

Perestelo-Pérez (2013) advice that a checklist be used that includes all the required characteristics and criteria a selected article needs, to be included in the review. Therefore, complementary to this step in the research process, a PRISMA flow diagram was utilized to illustrate studies that were included and excluded (See *Figure 2*). The pre-selection and selection step consisted of three phases:

Phase 1:

After the searches had been done, the researcher and the study leader worked independently and reviewed articles by the titles and abstracts in order to preselect the articles that were potentially appropriate and suitable for inclusion in this round of analysis, all the while adhering to the set forth inclusion and exclusion criteria. The following inclusion criteria was used to include studies in the review: Full text journal studies in either English or Afrikaans, peer-reviewed journal studies, PhD theses, Empirical studies published between 2005 - 2015, studies following either quantitative, qualitative or mixed-method approaches, adult study participants of 18 years and older in heterosexual marriages, and still married.

The following criteria was used to exclude studies from this review: Non-peer reviewed studies, review studies, master's dissertations / mini-dissertations, conference proceedings, studies published in languages other than English and/ or Afrikaans, non-research reports, letters and commentaries, and studies utilising non-probability sampling.

Phase 2

After completion of the initial screening, the pre-selection of the articles was standardized by the reviewers. During this phase, the two reviewers could have discussed the preselected articles. Should there have been any disagreement and no consensus was reached, the full text article would have been analysed (Perestelo-Pérez, 2013). This did not occur during the present study.

Phase 3

Once the pre-selection phase had been completed the preceding methodology was repeated with the full text articles in order to decide which of the articles would be included for appraisal, analysis and synthesis. This phase lasted four weeks, following ethical approval from the North-West University. Studies that complied with all the inclusion criteria were then included in the research. If there had been any disagreement between the two primary reviewers with regard to which articles had to be included in the next step of the review process, a third reviewer would have been consulted to resolve the disagreement (Perestelo-Pérez, 2013). This did not transpire during the present study. Through the full text review of relevance, 13 articles were finally identified as appropriate and suitable for inclusion in the present study.

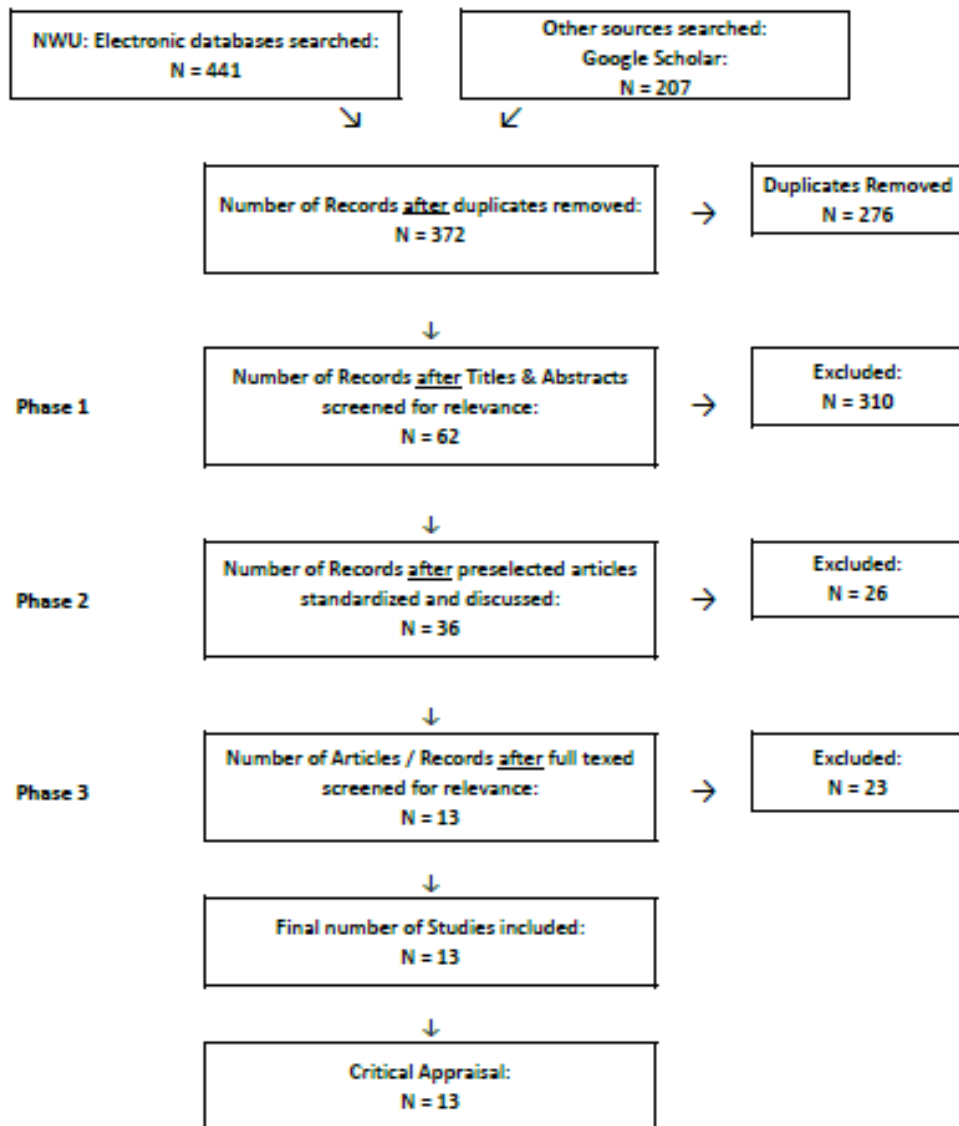


Figure 2: Search strategy results

Step 4: Critical Appraisal

In the process of critically appraising an article, three relevant aspects were considered, namely “the methodological validity of the study, the assessment of the precision and scope of the results analysis and the applicability of the results and study conclusions to our context” (Perestelo-Pérez, 2013, p. 54). Thorough reading and in-depth analysis of all the information contained within the articles under investigation were therefore utilised.

According to Handu et al. (2016) critical appraisal serves as a risk of bias tool that guides the researcher to recognise a range of threats that may weaken sound scientific research and lead

to possible invalid conclusions. The critical appraisal process aims to assure that included studies for review are valid, reliable, have been designed and executed appropriately and are scientifically grounded. As recommended by Perestelo-Pérez (2013), at least two independent reviewers evaluated the included articles in order to ensure that studies were of a high quality (Perestelo-Pérez, 2013).

Umscheid (2013) recommends using established checklists that have been tailored for specific study designs. Therefore, after the articles had been collected, the two researchers critically appraised the selected articles according to the National Institute for Health and Care Excellence guidelines (NICE, 2012). The NICE guidelines were utilized in order to make sure that the rapid review was done in a scientifically and rigorous manner. These assessment checklists include items relating to the population; selection of participants; theoretical basis for selecting explanatory variables; reliability of measures; appropriate data analysis; how well the study minimises sources of bias; the generalisability of research results; and whether ethical issues were taken into consideration.

The NICE (2012) checklists are all worded so that one of five possible rating options can be selected in order to rate the quality of each item, which includes the option symbols ++, +, –, NR and NA. The ++ symbol was allocated to relevant checklist items which are designed or conducted in a way that minimises bias; the + symbol was allocated if it was unclear from the way the study reported, or when the study may not have addressed all potential sources of bias of such an aspect of the study design; and the – symbol had been allocated when checklist items were a significant source of bias may continue. The remaining two rating options, namely NR and NA, were also used. NR was used when the study under review failed to report on the relevant item while NA was assigned when the item was not applicable for the relevant study.

As the search strategy results (*Figure 2*) show, initial search results produced 372 articles after the duplicates and articles in other languages were removed from the North-West University's electronic database search and the Google Scholar search, respectively. A further 310 articles were excluded after the titles and abstracts were screened for relevance. Of these 62 articles, 26 more were excluded after the two independent reviewers discussed the pre-selected articles. Following full text screening for relevance of the remaining 36 articles, another 23 were excluded due to not meeting the inclusion criteria.

Finally, 13 articles were included in the study and all 13 articles were deemed scientifically valid and reliable after being critically appraised according to the NICE guidelines. Furthermore, to ensure inter-rater reliability i.e. "inter reviewer reliability" (Stewart, 2014, p. 585), the agreement between reviewers was calculated through a Cohen's Kappa rating, providing a quantitative measure of agreement between reviewers. Articles that attained a rating of substantial to almost perfect agreement, between 0.61 to 0.99, were included (Viera & Garrett, 2005) (see Appendix C).

Step 5: Data Extraction

The next step of the process involved the collection of the most relevant data components of data to be extracted from each of the articles that was selected and included in this study for analyses, in order to answer the research question. Perestelo-Pérez (2013) recommends creating and using a template to collect all the relevant information from the included articles in detail, for analysis, synthesis and interpretation. Furthermore, it is advised that the data extraction of each article be done by the two independent reviewers.

For this purpose of the study, the researcher created a data extraction sheet, which assisted in keeping the risk of transcription errors to a minimum, ensuring consistency and objectivity (Petticrew & Roberts, 2006). A data extraction sheet was drawn up to store and

keep record of all the extracted data from the included articles, creating a detailed summary table of all the results, and contributing to the transparency and scientific rigour of the study (See *Table 1*). The data components extracted from the selected research articles included aspects such as references, study objectives, methodology, sample size, demographics of population, age of couples, years married, gender differences, results/ evidence on communication and low marital satisfaction (Wright, Brand, Dunn & Spindler, 2007).

Analysis

After the data that had been extracted from all the studies, the information obtained was combined, integrated and summarized in order to illustrate the main themes of the studies that were included in the review. This was done by means of thematic analysis within a qualitative synthesis methodology. Perestelo-Pérez (2013) state that the qualitative synthesis methodology should be used when the studies selected for the review are heterogeneous, meaning that the study participants of the selected studies are different, intervention characteristics are different, the outcomes and findings of the various studies selected are not similar or the methodological approach and quality differ.

As the current study aimed to review both qualitative and quantitative studies, qualitative synthesis methodology was utilized, allowing findings from qualitative, quantitative and sometimes mixed-methods studies to be pooled together in order to draw conclusions regarding the collective meaning of the research and its implications (Bearman & Dawson, 2013). Although there are a few different qualitative synthesis methods, thematic analysis was selected for this study, which can be referred to as “the various processes of reading texts and refining the findings into key themes” (Bearman & Dawson, 2013, p. 254). This method was selected as it identified themes that assisted the researcher to understand the overall combined meaning of the text, regardless of whether it contained qualitative or

quantitative studies. Thus, the quantitative data was analysed in order to extract the meaning thereof, then it was presented in text format which allowed for these studies to be analysed as qualitative data in order to identify certain key themes (Bearman & Dawson, 2013).

Once this had been done, the most relevant and important themes were identified, as such the findings from the 13 included studies were grouped and summarized under thematic headings, as proposed by Dixon-Woods, Agarwal, Jones, Young and Sutton (2005). Thus, the thematic analysis process allowed for flexibility in that it allowed the researchers to integrate both qualitative and quantitative data into key themes in a structured fashion, in order to work through the included literature under these themes (Dixon-Woods et al., 2005). Therefore, the synthesized findings enabled the researchers to generate hypotheses and draw conclusions from the collected data.

Results

In total, 13 studies, published between 2005 and 2015, were included which adhered to the inclusion criterion. All of these were quantitative studies, which obtained data through various methods including laboratory settings, self-report and partner-report questionnaires, psychometric/evaluative assessments, communication/conversation/ interaction/discussion tasks and semi-structured/structured interviews. Table 1 provides a summary of the 13 included articles:

Table 1: *Data extraction from included articles*

<i>Study</i>	<i>Objective</i>	<i>Methodology</i>	<i>Sample Characteristics</i>	<i>Core findings</i>
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Laurenceau, Barret and Rovine, 2005	The overarching goal was to empirically examine a process model of intimacy by examining reports of daily marital interactions in a sample of married couples.	Quantitative	Sample size: N=96 Married couples Demographics: 91(95%) Husbands & 90 (94% Wives) self-reported Caucasians Age of Couples: Husbands average age=35.27, range 20-75; Wives average age=34.27, range 21-74 Years Married: Average of 9.32 years, range .17-52.5	Greater demand/withdraw communication was associated with lower daily intimacy ratings. Demand/withdraw impacted indirectly on marital satisfaction.
Weger, 2005	Examines the influence of the demand/withdrawal conflict pattern on spouse's feelings of self-confirmation and relationship quality.	Quantitative	Sample size: N = 53 Married couples Demographics: All but three = Caucasian, Anglo, white, Other three = African American or Black Age of Couples: Husbands= Mean age of 38, range 21-75 Wives= Mean age of 36, range 20-67 Years Married: Mean length= 11.5 years, range two weeks to 49 years	The impact of the demand/withdraw pattern on marital satisfaction is completely mediated by self-verification (feeling understood) for husbands and partially mediated for wives.
Eldridge, Sevier, Jones, Atkins and Christensen, 2007	This study was designed to replicate and extend research on demand-withdraw communication among severely distressed, moderately distressed and non-distressed couples by examining three variables namely: distress level, marriage length and topic novelty.	Quantitative	Sample size: N=182 Married couples N=68 Severely distressed couples N=66 Moderately distressed couples N=48 Non-distressed couples Demographics: 79.4% Caucasian, 4.7% Asian American or Pacific Islander, 6.6% African American, 4.9% Latino, 0.5% Native American or Alaskan Native, and 3.8% other. Age of Couples: Range: 18-65 years old Severely distressed couples: Mean age Husbands= 43.87; Wives= 41.60 Moderately distressed couples: Mean age Husbands= 43.09; Wives=	Gender linkage in demand/withdraw pattern roles. Distressed couples were rigidly fixed in the wife demand/husband withdraw pattern. Demand withdraw is a complex, multifaceted communication pattern with implications for marital satisfaction and therapeutic interventions.

			41.64 Non-distressed couples: Mean age Husbands= 42.04; Wives= 39.83 Years Married: Severely distressed couples: Mean length= 10.05 years Moderately distressed couples: Mean length= (nine) 9.86 years Non-distressed couples: Mean length= 11.16 years	
Seider, Hirschberger, Nelson and Levenson, 2009	To determine whether the kinds of personal pronouns used by couples when attempting to resolve a marital conflict reflect on the emotional nature of their interactions and their marital satisfaction.	Quantitative	Sample size N= 154 N= 80 Middle-aged couples N= 74 Older couples From an ongoing longitudinal study of long-term marriages in middle-aged and older couples that began in 1989. Demographics Predominantly Caucasian, upper-middle class, white collar, well-educated, and Judeo-Christian. Age of Couples Middle-aged couples: Mean age Husbands= 44.3; Wives= 43.2; Range=40-50 Older couples: Mean age Husbands= 63.7; Wives= 62.3; Range= 60-70 Years Married Middle aged couples: At least 15 years Older couples: At least 35 years	The use of separateness words associated with more negative behaviour and lower marital satisfaction. This association was stronger for wives.

Segrin, Hanzal and Domschke, 2009	Examines whether perceptual accuracy or bias in reports of spouses' communication behaviours during conflict is associated with marital satisfaction.	Quantitative	Sample size N= 194 Demographics 2% American Indian or Alaskan Native, 3% Asian or Pacific Islander, 3% Black, 14% Latina/o, 76% White, and 2% other/unknown. Age of Couples Husbands: Mean age= 27.72 years Wives: Mean age= 26.04 years Years Married Married on average for 1.61 years *couples had to be married for 5 years or less for this study	Actor-partner effects revealed independent effects for conflict style engagement and withdrawal on marital satisfaction.
Markman et al., 2010	The overarching aim was to assess how negative and positive communication, assessed by both self-report and observational coding of interactions before marriage, predicts future divorce and marital satisfaction.	Quantitative	Sample size: N= 208 couples (N= 416 partners) From a larger study on the effectiveness of premarital education Demographics: 3.6% African American, 1.7% Asian American, 9.3% Hispanic or Latino, 0.7% Native American, and 84.7% White. Age of Couples: Participant's average age= 26.55 years old Years Married: Married for 5 years *Thirty-five couples (16.8%) divorced within the first five years of marriage; 173 (83.2%) remained married.	More pre-marital negative communication and less positive communication were predictive of lower levels of marital adjustment and divorce.

McNulty & Russel, 2010	Two longitudinal studies examined the role of problem severity in moderating the effects of negative problem-solving behaviour on the course of relationship satisfaction.	Quantitative	Sample size Study1: N=72 Study2: N=135 Demographics Study1: Husbands= 93% & Wives= 96% Caucasian. 4% were African-American, and 3% identified as “other” Study2: Husbands= 91% & Wives= 93% Caucasian. 4% were African American, 2% were Asian, and 2% identified as “other”. *Majority of participants where Caucasian Age of Couples Study1: Husbands mean age= 24.92 years; Wives mean age= 23.54 years Study2: Husbands mean age= 25.90 years; Wives mean age= 24.21 years *Range= 18-35 years Years Married Couples had to be married for fewer than 6 months. Thus, newlyweds.	Direct negative problem-solving behaviour predicted steeper declines in marital satisfaction in the context of minor problems, whereas indirect negative behaviour was associated with lower levels of marital satisfaction regardless of problem severity.
Duba, Hughley, Lara and Burke, 2012	Summarized the results of a study that identified relationships among factors and areas of dissatisfaction as reported by older couples	Quantitative	Sample size N= 60 couples N= 30 men N= 30 women Demographics Not described Age of Couples Men mean age= 72.63 years; range= 60-88 years Women mean age= 70.80 years; range= 60-86years Years Married Married 40 years or more	Various areas of dissatisfaction were related to communication associated with marital dissatisfaction, namely problem-solving, time spent together, financial distress and sex.

Rehman et al., 2011	To examine the association between marital satisfaction and communication patterns involving different domains conflict.	Quantitative	Sample size N= 15 *recruited from a larger study on daily mood and sexual and marital satisfaction. Demographics 87% of husbands and 100% wives were Caucasian Age of Couples Husbands mean age= 26.7 years Wives mean age= 26.5 years Age range=18-40 Years Married Married on average for 0.8 years *Only couples married for less than a year.	Negative behaviour and affects displayed during discussion of sexual conflict topics were associated with marital distress. Wives' own negativity during the discussion of sexual conflict predicted lower relationship satisfaction.
Lavner & Bradbury, 2012	This study aimed to identify early - marriage risk factors that distinguish initially satisfied couples who eventually divorce, from those who remain married.	Quantitative	Sample size: N=136 Demographics: Husbands: Sixty-seven percent were Caucasian, 15% were Latino-Chicano, 13% were Asian American-Pacific Islanders, 4% were African American, and 1% were Middle Eastern. Wives: Sixty-one percent were Caucasian, 16% were Latina-Chicana, 15% were Asian American-Pacific Islanders, 5% were African American, 2% were Middle Eastern, and 2% identified as "Other." *This data is consistent with the racial breakdown of Los Angeles County in the 1990 census. Age of Couples: Husbands average age= 26.6 years Wives average age=26.0 years *Range= 18-35 Years Married: Less than 6 months *Married less than 6 months	Initially satisfied couples who went on to divorce were vulnerable to low marital satisfaction and divorce if their early negative communication behaviour had been poorly regulated or mismanaged.

			at start of study, assessed over a 10 year period.	
Carroll, Hill, Yorgason, Larson and Sandberg, 2013	The purpose of this study was to begin to fill the gap in the literature by examining the mediating effects of destructive and constructive couple communication on the relationship between work-family conflict (WFC) and marital satisfaction.	Quantitative	Sample size N= 1117 N= 614 men (55%) N= 503 women (45%) Demographics 80 % Caucasian, 6 % Black, 5 % Latino, 4 % Asian, 3 % mixed/biracial, and 3 % other. All participants were working full time. Age of Couples Mean age= 36.7 years; range= 19-72 Years Married 36 % married 2 years or less, 34 % 3–10 years, and 30 % married 11 or more years. *Most participants were in the early to middle stages of their marriage.	Destructive communication styles negatively mediated the relationship between work-family conflict and marital satisfaction.
Williamson, Karney and Bradbury, 2013	Examined whether observed behaviours in marital interactions co-vary with individual experiences and contextual factors.	Quantitative	Sample size: N= 431 Demographics: 12% were African American, 12% were Caucasian and 76% were Hispanic (Which is comparable to the proportion of people living in the sampled neighbourhoods in Los Angeles County). Age of Couples: Men mean age= 27.9 years Women mean age= 26.3 years Years Married: Average of	High levels of negativity communication covaried with financial strain and stress and independently with low marital satisfaction.

			4.8 months *Married newlyweds	
Cao et al., 2015	Examined the within-couple communication patterns of Chinese newlywed couples and its association with relationship satisfaction.	Quantitative	Sample size: N= 144 couples; 288 partners Demographics: Chinese Age of Couples: Husband average age= 29.01 years Wives average age= 27.51 years Years Married: Married mean of 13.14 months *Within first 3 years of marriage *Newlywed couples	Within-couple patterns revealed an emotionally quarrelling communication profile and consistently quarrelling sub-type associated with lower marital satisfaction.

The following themes and sub-themes emerged from the included articles (Table 2):

The first theme included detrimental aspects relating to how couples communicated and was therefore labelled 'detrimental communication processes'. This theme included the sub-themes of the demand/withdraw pattern, destructive conflict styles, ineffective pre- or early marital communication and ineffective problem-solving skills. The second theme revolved around particular aspects that may occur in marriages that contributed to lowered marital satisfaction and was therefore referred to as detrimental content. This theme included two sub-themes, namely financial stress and conflict surrounding sex. The following section will discuss each of the themes and their respective sub-themes.

Theme 1: Detrimental communication processes	Theme 2: Detrimental content
Sub-theme 1.1: The demand/withdraw pattern	Sub-theme 2.1: Financial stress
Sub-theme 1.2: Destructive conflict styles	Sub-theme 2.2: Conflict surrounding sex
Sub-theme 1.3: Ineffective pre- or early marital communication	
Sub-theme 1.4: Ineffective problem-solving skills	

Table 2: *Themes and sub-themes of communication aspects that contribute to low levels of marital satisfaction.*

Theme 1: Detrimental communication processes

Within communication, process refers to how the individuals involved in the interaction are manoeuvring one another through their verbal and non-verbal communication and it may be this manoeuvring that causes changes in feelings, thoughts and behaviour of the parties involved in the communication (Vorster, 2011). In some instances, marital partners may become entrapped in ineffective communication processes which can be due to communication skills deficits. Such patterns, if left unchanged, could escalate over time to bring about low levels of marital satisfaction, relationship distress and, ultimately, dissolution of the marriage (Kuster et al., 2015). The following sub-themes were found to be such processes that were identified during the present review.

Sub-theme 1.1. The demand/withdrawal pattern

The demand/withdrawal pattern refers to a destructive communication process whereby one spouse, the demander, raises a relationship issue, such as unfinished business from the past, during a conflict situation in a destructive manner, such as by making

demands, criticizing or nagging their partner to address the matter that was raised. The resulting impact from their partner, the withdrawer, is to distance themselves from these advances by withdrawing from further interaction at that time, e.g. by walking away or falling silent. The impact of this behaviour impacts the demander strongly, leaving him or her feeling angry and unheard, which in turn leads the demander to escalate their destructive manoeuvres referred to previously. The withdrawer then again also responds to these escalated manoeuvres through further escalation of withdrawing, e.g. by spending the night in another room or another location, or simply remaining silent long after the conflict situation.

Over time partners become entrapped in their roles within the demand/withdraw patterns, consequently increasing emotional distance between them as both are left with the impact of emotional pain combined with the perception that their needs are not being heard or met by their partners in the marriage. If left unchecked, this will most likely escalate to a point where one or both parties may wish to leave the relationship, and by doing so, bringing it to the point of divorce (Eldridge et al., 2007; Laurenceau et al., 2005).

Four studies particularly referred to the demand/withdrawal pattern of communication in marital interactions and its detrimental impact on marital satisfaction (Eldridge et al., 2007; Laurenceau et al., 2005; Segrin et al, 2009; Weger, 2005). Husbands and wives who reported higher levels of demand/withdraw communication reported lower corresponding average daily intimacy ratings. Greater levels of demand/withdraw communication were also related to lower levels of daily intimacy ratings from both spouses. These findings strongly suggest that levels of marital dysfunction are reflected in spouses' daily intimacy process through the demand/withdraw pattern which in turn impacted negatively on their marital satisfaction (Laurenceau et al., 2005).

Both husbands and wives felt less understood by their partners when their partner's withdrawal increased during conflict interactions. Marital satisfaction was influenced by the

demand/withdrawal interaction pattern and by feeling understood by the marital partner. It appeared that the extent to which one spouse felt understood, depended, to some degree, on how well his or her partner felt understood. Satisfaction was at least partially derived from the partner's perceptions that they understood each other, as well as the effect that the demand-withdraw pattern had. Furthermore, partner withdrawal was negatively associated with the spouses' feeling of being understood. With regards to the husband demand/wife withdraw pattern, the husband's satisfaction depended on the degree to which he felt understood by his wife. For wives, the demand/withdrawal pattern had a direct and indirect influence on their marital satisfaction (Weger, 2005).

The demand/withdraw pattern was strongly associated with marital distress i.e. marital dissatisfaction, during relationship problem discussions. Interestingly, results also indicated a gender linkage in the demand/withdraw pattern roles, with women more likely to demand and men more likely to withdraw. Distressed couples, couples who were dissatisfied in their marriages or experienced low marital satisfaction, were rigidly fixed in a wife-demand/husband- withdraw pattern during topics of discussions, with less responsiveness to situational changes. Demand/withdraw was a complex, multifaceted communication pattern that had implications for marital satisfaction and stability, as well as therapeutic interventions (Eldridge et al., 2007). Findings on the corrosive nature of conflict patterns, such as demand and withdrawal, indicated that the partner effects of this corrosive communication pattern had important implications for identifying at risk marriages as it associated with dissatisfaction in partners (Segrin et al, 2009).

Sub-theme 1.2. Destructive conflict styles

Four studies reported on the association between couples' conflict styles and low marital satisfaction (Cao et al., 2015; Carroll et al., 2013; Segrin et al., 2009; Seider et al.,

2009). Spouses who reported destructive conflict styles, including conflict engagement, conflict withdrawal and compliance, experienced less marital satisfaction. Spouses who engaged in destructive communication (e.g. insults, losing control, exploding and launching personal attacks) during conflict were also likely to experience lower levels of marital satisfaction. This is, as this type of communication was found to damage the quality of the marriage and created a climate of hostility that harboured further negative communication during episodes of conflict.

Self-reported conflict engagement and withdrawal were also predictive of spouses and their partner's lower marital satisfaction as neither husbands nor wives felt good about the marital relationship when a partner communicated with hostility, or when partners withdrew from the conflictual interaction. Compliance, or just 'giving in without a fight', was also found to be associated with dissatisfaction for the spouse who enacted the communication behaviour, also referred to as 'the actor', but not for the partner. This is as when the actor enacted compliant communication behaviour during conflict interaction, their agenda and concerns were often subverted in favour of their partners (Segrin et al., 2009).

Destructive communication also influenced the detrimental relationship between work-family conflicts and marital satisfaction. Destructive or negative communication behaviours such as criticism, contempt, defensiveness and stonewalling all exacerbated the effects of work-family conflict by adding stress to the marital relationship and thereby lowering marital satisfaction (Carroll et al., 2013). In a study by Cao et al. (2015) that examined within-couple communication patterning and its association with relationship satisfaction, couples who interacted in an emotionally quarrelling fashion across different context were classified as 'consistently quarrelling' couples. This couple type was also associated with low marital satisfaction. Findings from this study revealed three profiles of spouse's interaction behaviour, with the characteristically detrimental one called the

‘emotionally quarrelling’ profile. This profile was characterized by high levels of pessimism, ineffective communication behaviour (e.g. hostility, dominance, and interrogation) and low levels of optimism to counterbalance this pessimism during interactions. The couples who displayed this imbalance between pessimism and optimism in their interactions across contexts were subsequently classified as ‘consistently quarrelling’ couples based on their association to the emotionally quarrelling profile which was associated with the lowest levels of marital satisfaction (Cao et al., 2015).

In addition to communication related to conflict, the general use of pronouns was also associated with levels of marital satisfaction. In particular, the study by Seider et al. (2009) indicated that the certain personal pronouns used by couples when attempting to resolve marital conflict, reflected the emotional nature of their interactions and marital satisfaction. This in turn was found to have a direct impact on marital satisfaction experienced by the marital couples (Seider et al., 2009). The use of so called “separateness words”, or “me/you-words” as opposed to “us/we” words were associated with high levels of painful emotional experiences in interactions and found among more dissatisfied couples. The so called “separateness schema”, which reflected a schema of independence and a focus on each individual spouse as opposed to both spouses as a single “unit”, was highlighted as very toxic to marriages. Spouses that made use of such “separateness” language were found to commonly do so in order to express their frustration in ways that were contentious and adversarial. Couples who interacted in this way were, therefore, more dissatisfied with their marriages (Seider et al., 2009).

Sub-theme 1.3. Ineffective pre- or early marital communication

Three studies found that ineffective pre-or early marital communication was associated with low marital satisfaction and, in some instances, was predictive of divorce

(Lavner & Bradbury, 2012; Markman et al., 2010; McNulty & Russel, 2010). Both observed and self-reported ineffective premarital communication were associated with lower marital adjustment (satisfaction) related to difficulties in the first five years of marriage. More ineffective and less effective premarital communication (both observed and self-reported) were also associated with divorce. With regard to marital adjustment (marital satisfaction), lower levels were strongly associated with higher levels of ineffective communication, however, premarital effective observed communication was not associated with marital satisfaction. Based on these findings, the prediction of marital quality (satisfaction) and divorce indicated that some of the root causes for distress and dissolution could be found in the couples' communication quality and that these could have been identified before marriage.

Higher ineffective levels of premarital communication, both observed and self-reported, were associated with less steep declines in marital adjustment (satisfaction) as marriages with such levels of premarital communication also had lower pre-marital adjustment scores, thus, these marital relationships had less room for decline to begin with. Results further showed that ineffective communication predicted future marital distress (dissatisfaction), while effective communication did not - thus, ineffective communication could be seen as a stronger risk factor than effective communication, which could be seen as a protective factor. Dissatisfied couples also showed more ineffective communication over time and couples who ended up distressed experienced more declines in effective communications pre-maritally (Markman et al., 2010).

Findings from similar studies also revealed that newlywed spouses indicated that those who displayed more ineffective communication behaviours were less satisfied with their relationships initially. Problem severity and behaviour were also found to be negatively associated with initial satisfaction. Spouses who were initially unhappy were those who

engaged in more ineffective communication behaviour and experienced the most severe problems (McNulty & Russel, 2010).

Initially satisfied couples who divorced, displayed higher levels of observed negative affect, skills and support and had husbands who reported using verbal aggression. These low-distressed marriages that eventually ended in divorce, were further characterized by displays of anger and contempt, as well as ineffective communication skills such as disagreement, blame and invalidation, early during marriages. Furthermore, spouses in these marriages' displays of support were more ineffective, e.g. expressing inappropriate pessimism, discouragement of feelings and insistence that partners resolve difficulties by themselves. Husbands, in particular, from these low-distressed marriages who went on to divorce, reported more verbal aggressiveness early on in the relationship. The ineffective interaction patterns of these couples were behaviourally more similar to that of low marital satisfaction groups. Therefore, low-distressed couples had poorly regulated and mismanaged negative communication patterns early on that elevated their risk for dissolution (Lavner & Bradbury, 2012).

Sub-theme 1.4. Ineffective problem-solving skills

Three studies reported that deficits in problem-solving contributed to low marital satisfaction (Duba et al., 2012; McNulty & Russel, 2010; Segrin et al., 2009). The less spouses reported positive problem solving, the less satisfied they were with their marriages. Partner effects indicated that when wives (the actor) proposed positive problem solving techniques during conflict interactions (e.g. proposing alternatives that would work for both, negotiating or compromising), it was associated with husbands' satisfaction, however, in the reverse, this was not the case (Segrin et al., 2009).

Spouses' use of negative problem-solving interaction behaviours namely blaming, commanding and rejecting, were all associated with steeper declines in their own marital satisfaction when facing minor problems within the relationship context. These direct negative behaviours were associated with steeper declines in satisfaction by making minor problems worse. The indirect negative communication behaviour of hostility was associated with lower marital satisfaction regardless of the problem severity (McNulty & Russel, 2010). Both men and women reported that their marital dissatisfaction was accompanied by struggles or deficits in problem solving related to time spent together. Women specifically reported distress in problem solving communication related to conflict over child rearing (Duba et al., 2012).

Theme 2: Detrimental content

In the context of communication, content specifically refers to the topics of the verbal and non-verbal messages contained within communication (Burleson, 2010; Vorster, 2011). It essentially refers to what individuals are communicating about. According to Harary and Batell (1981), the content of what couples are talking about may, in itself, cause conflict within a relationship and could in such a manner impact detrimentally on the relationship satisfaction (Eğeci & Gençöz, 2006). In the present review the following content topics were identified that contributed to lower levels of marital satisfaction.

Sub-theme 2.1. Financial stress

Two studies indicated that financial stress was associated with marital dissatisfaction (Duba et al., 2012; Willimason et al., 2013). Men and women both reported that disagreement about finances (lack of confidence in a partner's capability of handling finances, arguing about finances) was strongly associated with marital dissatisfaction (Duba et al., 2012). High

levels of pessimism in couples' communication covaried with spouses who reported on stress and financial strain, which was associated with low levels of relationship satisfaction independently (Williamson et al., 2013).

Sub-theme 2.2. Conflict surrounding sexuality

Finally, two studies indicated that the negative effect during conflict revolving around sex, related to aspects within the marriage that also predicted lower levels of marital satisfaction. This was found to be more significant for wives and, the more pessimistic they were during the discussion of sexual problems, the lower their relationship satisfaction was found to be (Rehman et al., 2011). For both spouses, dissatisfaction with sex was, however, related to dissatisfaction with affective communication, e.g. understanding, support and empathy, and mutual disclosure (Duba et al., 2012).

Discussion

From the themes and sub-themes identified in the review of this study, it is evident that there are aspects of communication that contribute to subjectively experienced low levels of marital satisfaction among marital partners. From the detrimental communication processes theme, the sub-theme of the demand/withdraw pattern was particularly highlighted in numerous studies to be related to lower levels of marital satisfaction. This is as the results appeared to indicate that spouses who become entrapped in this type of dysfunctional communication pattern, are frequently left feeling misunderstood by their partners. As a result, they further tend to experience less intimacy in the marriage, as intimacy is conveyed through understanding and validation (Laurenceau et al., 2005). If spouses feel that they are not understood by their partner or as a result of this, experienced lower levels of intimacy, they consequently experienced overall low levels of marital satisfaction.

Interestingly, the results also showed that wives tended to occupy the role of the demander and husbands that of the withdrawer in most of the studies that were included in the present study (Eldridge et al., 2007). Possible reasons for this were not included and this can therefore be an area to investigate in future studies as well. At this point the researchers hypothesised that factors such as culture and gender roles may influence this trend. Another possible explanation for this trend was suggested in one of the studies by Weger (2005), who suggested that wives may be dissatisfied for having been placed in ‘control’ of conversations in the first place and, therefore, they may be dissatisfied with their husbands’ withdrawal from conversations.

This was also related to the work by Gottman (1993, 1994) who had referred to the withdrawal of husbands as ‘stonewalling’, or ‘listener withdrawal’. Gottman (1993, 1994) also described this tendency to be particularly destructive communication behaviour with highly detrimental consequence for a marriage. Despite the aforementioned trend for husbands to occupy the role of the withdrawer in the pattern, Caughlin (2002) stated that the demand/withdraw communication pattern strongly predicted low marital satisfaction for any marriage, regardless of who occupied which position in the pattern.

In addition to the demand/withdraw pattern, the remaining sub-themes of the detrimental communication processes theme of destructive conflict styles, ineffective pre-or early marital communication and ineffective problem-solving all revealed what is referred to as actor and partner effects in relation to low marital satisfaction. Actor effects refer to within-person effects and represent the contribution of an individual’s level of a predictor variable to their own level of an outcome variable (Seider et al., 2009), that is, the effect of a spouse’s conflict style, for instance, on their own marital satisfaction (Sergrin et al., 2009). Partner effects refer to between-person effects that represent the contribution of a partner’s level of a predictor to another person’s level of their outcome variable (Seider et al., 2009),

thus, the effect of a spouse's conflict style on their *partner's* marital satisfaction (Segrin et al., 2009).

Based on their actor effects, spouses who enacted destructive and hostile conflict styles, withdrew from conflict or who were overly compliant, contributed to their own marital dissatisfaction in doing so. In addition, from a partner-effects perspective, spouses who engaged in both conflict and withdrawal, i.e. the demand/withdraw pattern, contributed to their own, as well as their partner's, marital dissatisfaction (Segrin et al., 2009), as was also the case with the direct and indirect impact of the wife demand/husband withdraw pattern (Roberts, 2000; Weger, 2005).

The partner effects of problem-solving were more complex, given that suggestions by the wife in the form of positive problem solving may have a counterproductive effect on her own marital satisfaction (Segrin et al., 2009). This may be that when she proposed solutions to problems related to her husband, he withdrew, resulting in her feeling misunderstood or invalidated, consequently impacting negatively on her marital satisfaction (Eldridge et al., 2007; Weger, 2005). Note, however, that this assumption was speculative and would require further research. Actor-partner effects were also found to have a detrimental impact on wives' marital satisfaction when the wives and their husbands used separateness words during their marital interactions (Seider et al., 2009). In addition, Sillars, Shellen, McIntosh and Pomegranate (1997) found that couples use of first-person singular pronouns, such as *I*, *me* and *my* correlated negatively with these couples' levels of marital satisfaction.

Overall, the researchers found that both spouses' marital satisfaction was detrimentally affected by these forms of communication behaviours, regardless of whether the spouse was the source or the target of these behaviours. As Segrin et al. (2009) stated, both enactments, as well as reception of these forms of communication processes, will most likely lead to harmful consequences to the marital relationship as a whole, while also causing

emotional pain and, in some cases trauma, to one or both spouse. In this manner, it leads to lowered levels of marital satisfaction as experienced by both spouses.

Despite the fact that findings on the emotionally quarrelling communication profile and its consistently quarrelling sub-type were derived from a sample of Chinese newlywed couples, there were some similarities with Western couple types identified from past research (Cao et al., 2015). The emotionally quarrelling profile was characterized by high levels of pessimism, ineffective communication behaviour (e.g. hostility, dominance and interrogation) and low levels of optimism to counter balance this pessimism during interactions.

Furthermore, its consistently quarrelling sub-type entails couples who consistently quarrelled during interactions across different contexts (Cao et al., 2015). The high emotional expressivity demonstrated by the emotionally quarrelling profile and its consistently quarrelling sub-type was similar to the 'volatile' couples identified by Gottman (1993, 1994), albeit that the 'volatile' couples also displayed some effective communication during their interactions, whereas the quarrelling couples, identified here, did not. Both these Western and Chinese couple types interactions were associated with lower marital satisfaction (Cao et al., 2015; Cook et al., 1995).

Results from the research on pre- or early marital communication further suggested that couples' communication early in the marriage, and even before the marriage, was strongly correlated to the levels of marital dissatisfaction experienced later in the marriage, as well as with divorce (Markman et al., 2010). This is as results showed that couples who displayed more ineffective communication processes and experienced more severe problems early on in their marriages (McNulty & Russell, 2010) displayed higher levels of negative affect skills and support (Lavner & Bradbury, 2012) and tended to engage in certain conflict styles more frequently (Segrin et al., 2009).

This implied that the deteriorating effects that contributed to low marital satisfaction for these couples were there from the start of the relationship. In combination, these findings on the predictive nature of marital satisfaction and eventual divorce were consistent with the enduring dynamics model. This is, as this model postulates that the patterns of interpersonal communication that are established at the beginning of the relationship i.e. courtship, remain stable and mostly unchanged throughout the course of the marital relationship (Segrin and Flora, 2014).

On an interesting related note, Gottman and Silver (1999) also stated that predictions about whether a couple will stay together or get divorced could be made within five minutes of observing and analysing their interactions within the laboratory and that such predictions could be made with 91% accuracy purely from observations of marital communication between spouses. Therefore, if a couple's pre- or early marital communication was characterized by ineffective processes such as those highlighted in this study, it may remain unchanged or, in most cases, escalate over time during the marriage and, ultimately, could result in low marital satisfaction and eventual divorce.

Results further showed that lower levels of marital satisfaction were positively correlated with higher levels of ineffective communication, however, it was found that effective communication was not. This suggested that ineffective communication could be a stronger risk factor for the experience of low marital satisfaction than effective communication would be a protective factor to prevent it (Markman et al., 2010). Not only did Carroll et al. (2013) find that the so called four 'horsemen of the apocalypse' namely criticism, contempt, defensiveness and stonewalling (Gottman, 1993, 1994) resulted in the experience of lower levels of marital satisfaction, while mediating the negative relationship between work-family conflict and satisfaction, but also that these destructive communication or conflict styles also impacted more powerfully on marital satisfaction than did constructive

communication. Results also indicated that direct ineffective problem-solving skills were also associated with steeper declines in marital satisfaction when couples were facing minor problems (McNulty & Russel, 2010).

In addition to the theme of ineffective communication processes, the next theme of detrimental content also found that, although how couples communicated played a crucial part, in some instances, what couples discussed and, in particular argued about, also tended to lower the levels of marital satisfaction experienced by both spouses. For instance, dissatisfaction expressed during the discussion of sexually related topics was found to be significantly more predictive of marital dissatisfaction than favourable expression (Rehman et al., 2011). This further illustrated that the expression of dissatisfaction and pessimism have a stronger, more destructive and deteriorating impact on marital satisfaction levels than more favourable and optimistic forms of expression about various topics, including sex.

Results on the discussion of sexual versus non- sexual conflict topics also revealed that sexual topics had a stronger detrimental impact on women's marital satisfaction, in particular (Rehman et al., 2011). In addition, more women reported sexual dissatisfaction as a difficulty in their marriages (Duba et al., 2012). According to Ahmadi, Ashra, Kimiaee and Afzali (2010), sexual problems in the relationship are both the cause and effect of marital dissatisfaction and as Canel (2013) stated sexual dissatisfaction is just one of the factors that influence the level of a couple's marital satisfaction. In addition to topics of a sexual nature, topics related to finances, and particularly where couples experienced financial strain and distress, this was also positively correlated with lower levels of marital satisfaction (Duba et al., 2012; Williamson et al., 2013). Williamson et al. (2013) found that high levels of pessimism in couple's communication covaried with spouses who reported on stress and financial strain, which was associated with low levels of relationship satisfaction independently. This finding, although significant, was not straightforward and would require

future research as the topic of financial distress in relation to marital satisfaction was found to be limited.

When considering all of the findings reported in this section, the present study contributed on a theoretical level by expanding the research on communication aspects that contribute to low levels of marital satisfaction. Specifically, when considering the theory base of the present study, these findings illustrated that certain aspects of communication could influence the individual properties of the spouses, thus determining how they experience their marriage in terms of the quality and satisfaction (Helms, 2013). Furthermore, when considering Huston's three level model of marriage, it can be argued that the current research findings on aspects of communication that contribute to low levels of marital satisfaction relates closely to the micro-behavioural patterns of marriage where communication take place and spouses engage effectively or ineffectively in patterns of interaction, consequently creating understanding or misunderstanding through the messages that are being shared between them (Helms, 2013).

Overall findings from the present study further illustrated the complex dynamics involved in the marital relationship and highlighted how communication could play a critical role in hindering marital satisfaction. On a practical level, it is hoped that the findings will assist those mental health practitioners who treat couples, such as psychologists, to be able to identify and alter those aspects of communication which contribute to the experience of low levels of marital satisfaction among marital partners as highlighted in this section, more clearly. In doing so, it is hoped that it can prevent some couples in distress to divorce and suffer the detrimental mental health effects associated with it.

It is considered that, based on the aforementioned, the study succeeded in achieving its aim of rapidly and systematically reviewing and synthesizing the best available empirical research evidence of the aspects of communication that contribute to low levels of marital

satisfaction. It also achieved its objectives of rapidly reviewing research on the aspects of communication that contribute to low levels of marital satisfaction, synthesizing the findings and making recommendations based on these findings which could potentially be used to make both a theoretical and practical contribution.

Limitations

According to Gough, Oliver and Thomas (2017), the field of rapid reviews is still a new and developing field where there are still discrepancies with regard to terminology used to describe, discuss and develop methods. Although this rapid review was done according to the requirements set out for systematic reviews, thus making the research process as transparent as possible, a rapid review is still done within a shorter timeframe compared to other types of reviews, thus running the risk of introducing bias or excluding important data (Grant & Booth, 2009; Schünemann & Moja, 2015). As such, documenting the entire process thoroughly and highlighting its limitations was done in an attempt to counter such biases as far as possible.

Another limitation prevalent among review studies is that it is nearly impossible to recover all the data relevant to the particular subject of study (Perestelo-Pérez, 2013; Schünemann & Moja, 2015). This is due to the limited number of databases that could be searched, the researchers only including English and Afrikaans studies, as these were the only languages they were familiar with, as well as other constraints, such as financial implications and time. Nevertheless, the researchers worked independently and searched the available databases while striving to work as “complete, sensitive, efficient and unbiased” (Perestelo-Pérez, 2013, p 53) as far as possible in order to improve the present study’s scientific rigour and validity.

The current study focused specifically on heterosexual married couples for the purpose of this research. Although it is acknowledged that alternative relationships exist that are different from the heterosexual marital relationship, such as same sex relationships, same sex marriages, cohabiting heterosexual relationships and polyamory, to name but a few (Hennigan, 2013; Light & Omori, 2013). Du Plooy and De Beer (2018) argued that it would be nearly impossible to include and evaluate all of these alternative relationships for the purpose of a single study. Instead, it is hoped that the findings of the present study may provide a baseline for further related studies that will include alternative couples and alternative forms of marriages.

Lastly, South African research on the present topic was lacking as no such local studies could be found relating to the topic of investigation, apart from the study by Du Plooy and De Beer (2018) on which this study had aimed to build. Furthermore, from a cultural perspective, twelve of the studies that were included in the final review originated from the United States and the other from China. It is acknowledged that generalisability of the findings will, as a result, be limited to the South African and African contexts. This also served to highlight the urgent need for more research on this topic, specifically within the South African and broader African contexts.

Recommendations

On a theoretical level, the results may have implications for future research on the aspects of communication that contribute to low marital satisfaction, as well as on a practical level for those who treat couples with marital problems, such as psychologists. The current study indicated that although the process of how married couples communicate was important, the content of what they communicate about is also important, especially when the content pertains to issues or topics that are important to one of the spouses who feel that these aspects should be discussed and resolved. This was found to be particularly relevant in cases

where financial stress and challenges related to sex in the marriage was being experienced.

Further studies in the future may investigate whether these topics are also relevant for lowering levels of marital satisfaction in other cultures, particularly in Africa, as no studies could be found from this context.

Furthermore, the separate influences of the demand/withdraw pattern could also be further examined in other cultures, such as African cultures, as the results from the present study suggested that husbands' withdrawal and wives' demand may contribute independently to low marital satisfaction in the cultures that were included, which were predominantly from the United States. In addition, the findings seemed to indicate that the women or wives' marital satisfaction were more adversely affected by some of these aspects of communication. Practitioners may therefore need to focus their therapeutic interventions first on the wives' experience when working with couples in marital distress.

When promoting problem-solving skills, care should also be taken with regard to the complexities involved with effective problem-solving and compliance due to its seemingly counterproductive consequences, however, this finding may also need more research to be clarified. Findings on sexual conflict and financial distress are in need of more research as mentioned previously, however, practitioners should take note of the fact that these content topics also contributed to couple's marital dissatisfaction. Early intervention could also focus on potential ineffective pre- or early marital communication due to its predictive value for marital distress and dissolution by identifying and intervening at risk couples early on, before the dysfunctional marital conflict behaviours potentially escalates to cause permanent harm to spouses' physical and psychological well-being.

As Du Plooy & De Beer (2018) also found, research on the topic of communication related to low marital satisfaction within the South African context was lacking since only international studies pertaining to the research topic were included in the review study. Given

that the current study aimed to build on the research done by Du Plooy & De Beer (2018), more research on the present topic also needs to be done locally. This could be done by pooling together resources and expertise from different tertiary institutions across South Africa (De Beer, 2016). It could be argued that the present study has already taken one step in this direction by building on existing research by expanding the field of knowledge on the topic but also further exclaiming the need for research within the South African context. The researcher believes it may be beneficial for tertiary institutions to promote the idea of post graduate students conducting research, to build on each other's research in order to further research on specific areas and create a wealth of knowledge pertaining to specialized fields, such as marital therapy.

Apart from the limitations, the literature included and reviewed in the present study, underlined the fact that communication and levels of marital satisfaction are strongly related and that there are certain aspects of communication that inevitably determines whether a married couple is satisfied or dissatisfied with their marriage. Although the current study focused on heterosexual married couples, as discussed within today's society, there exists many alternative relational couples, such as same sex relationships, same sex marriages, cohabiting heterosexual relationships and polyamory, to name a few (Hennigan, 2013; Light & Omori, 2013). Studies such as the present one will also be required as a starting point for building scientific knowledge on these alternative couple types in order to gain insight into their marital functioning, dynamics and determinants of satisfaction.

Conclusion

Despite its limitations, the present study highlighted how both certain communication processes and content topics can have significant implications for lowering levels of marital satisfaction. Therefore, not only does the process of how problems are addressed or handled

have implications for lowering marital satisfaction, but also the content of what the problem is about. This finding appeared to challenge the assumption about research on marriage that “what matters is not what people argue about but how they argue” (Rehman et al., 2011; p,101) as, in some cases, the content is also a relevant and important factor to consider in relation to potentially leading to lowered levels of marital satisfaction.

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Section 3

CRITICAL REFLECTION

Introduction

This study set out to summarise the best available research on the aspects of communication which contributed to low levels of marital satisfaction in the form of a rapid review. A number of studies were identified and included from the literature which yielded fascinating results. A discussion and reflection of these findings, along with recommendations for further research, are included in the following sections. What was evident right from the start and throughout this research study was that the concepts of communication and relationships appeared so intertwined, not only in life but also in research, that it made considering one without the other, nearly impossible. All relationships between two people seem to carry within them a shared sense of meaning, created and maintained through the process of communication. Thus, the manner in which two people in a relationship communicate and what they communicate about appear to determine their experience of the relationship, each other and what they gain from it -that is, the level of satisfaction they gain from it. This was most evident within the marital relationship, as indicated by the literature highlighted in Section 1.

Personal reflection

From a young age the researcher was led to believe that “love conquers all” and that according to certain societal norms, getting married is part of the conventional way of life. Therefore, one would assume that finding a partner, falling in love and living happily ever after should be quite a straight forward process, however as evident from the literature on

marital relationships, more often than not, many married people report that the primary source of all their frustration and unhappiness stems from their marriages, which consequently seemed to have strong negative effects on their physical and psychological wellbeing. It is this notion that interested the researcher and subsequently led to the work done on the present study. The researcher wanted to know what it was that is causing relationships to fail, and after speaking with the research supervisor, it was discovered that a study was done by Du Plooy and De Beer (2018) which had investigated the aspects of communication that contributed to high levels of marital satisfaction. The researcher saw this as the ideal opportunity to set out to investigate the proverbial ‘other side of the coin’ in this regard, i.e. what aspects of communication contribute to low levels of marital satisfaction?

The heterosexual marital relationship was chosen specifically for the purpose of this study as it is still considered the most common and prevalent relational form within society, however, as the global and local statistics highlighted in Section 1 have shown, divorce rates are seemingly increasing yearly. This has severe implications, not only for the spouses involved but also for their family as a whole. Therefore, although the researcher acknowledged that other forms of relationships and marriages do exist within society, at this point it was deemed sufficient to focus on heterosexual married couples only for the purpose of *this* study.

Critical reflection of the present study

Since the present study aimed to replicate the aforementioned rapid systematic review study conducted at the NWU by Du Plooy and De Beer (2018) in order to build on existing research, while focusing on communication aspects which contribute to low levels of marital satisfaction - this study set out to summarize the best available scientific evidence on the

topic by means of conducting a rapid review. This method was selected in order to work in a timely and cost-effective manner and for the purpose of completing a mini-dissertation in order to complete the MA Clinical Psychology course.

The results obtained from this study indicated that there are various aspects of communication that contribute to low levels of marital satisfaction and that these aspects could be sorted into two separate categories relating either to: the process of communication, that is, how couples communicate with each other, or: the content of communication, referring to what they are communicating about. These two categories also formed the two themes in the findings, namely: detrimental communication processes and: detrimental content. Various other categories also emerged from the research that were found to be related to the aforementioned themes and were subsequently included as sub-themes.

Under the theme of detrimental communication processes, the sub-themes of the demand/withdraw pattern, destructive conflict styles, ineffective pre- or early marital communication and ineffective problem-solving skills were included. The theme of detrimental content included the sub-themes of financial stress and conflict surrounding sex. The particularly relevant and important finding that emanated from this study was, therefore, that both the process and content of communication could have detrimental consequences on marital satisfaction. This finding suggests that within the realm of marital research and therapy, both the process and content of communication need to be considered.

To date, it has been the researcher's experience that numerous therapists have focussed exclusively on either the content or the process of marital communication when planning their interventions. This led some to believe the notion that what matters most 'is not what couples fight about, but how they fight', or 'is not how couples fight, but what they fight about'. These present findings highlighted the need for notions such as these to perhaps

be revised and replaced by a focus on both of these aspects in combination when planning interventions in the context of couples / marital therapy.

Another aspect of importance that emerged from the present study was that all of the articles included in the final analysis originated from international sources, specifically twelve emanated from the United States and the other one from China. Therefore, the findings from this study may be limited in terms of its generalizability, especially within the South African context. Importantly, no South African or African studies of a high scientific quality pertaining to the topic under investigation, could be identified. This suggested either a lack of quality local research on the aspects of communication and low marital satisfaction or a limitation resulting from the rapid review methodology, which may have led to such local research not being identified.

When considering the increasing annual divorce rate in South Africa, along with its cultural diversity, it is recommended that more research on the present topic needs to be done in South Africa and other African countries with large sample sizes, in order to compare it with the findings of the studies that were included in the present review. It could be argued that the present study has taken but another small step in this direction by building on the findings of Du Plooy and De Beer (2018) and, in doing so, expanding the field of knowledge on the topic while further exclaiming the need for further research of this nature within the South African and larger African context. As a next proposed step, focussing on the topic among other types of marriages and relationships, such as same sex marriages, might also yield interesting and important data to compare with the findings of the present study while informing therapists when encountering these clients in therapy within the South African and African context.

Conclusion

The findings from the present study indicated that communication aspects relating to the process, namely the demand/withdraw pattern, destructive conflict styles, ineffective pre- or early marital communication and ineffective problem solving skills, as well as communication aspects relating to the content, namely financial stress and conflict surrounding sex, all contribute to lowering levels of marital satisfaction among heterosexual married couples. Furthermore, the research highlighted that psychotherapists in the field of marital counselling may need to pay more attention to both the content, as well as the process of the communication of the couples who make use of their services, when planning and conducting their interventions. Lastly, the results indicated that more research of a higher quality with larger sample sizes on the present topic, is needed in the South African and African context, as well as research on other types of relationships and marriages. This is as the present results may have limited generalizability due to it primarily originating from the United States and China.

References: Section 3

De Beer, P. J. (2016). *The relationship between communication and high levels of marital satisfaction: A systematic review* (Master's dissertation). North-West University, Potchefstroom Campus.

Du Plooy, K., & De Beer, R. (2018). Effective interactions: Communication and high levels of marital satisfaction, *Journal of Psychology in Africa*, 28(2), 161-167. doi: 10.1080/14330237.2018.1435041

Section 4

APPENDICES

Appendix A

Author Guidelines: Journal of Psychology in Africa

The Journal of Psychology in Africa publishes original empirical research articles, research reviews, conceptual development articles and thematic issues. Manuscripts can be regular research reports, brief reports, and those that address topical professional issues, including case analysis reports. Book reviews and special announcements are accepted for publication. Specifically, manuscripts with the following qualities are encouraged: 1) Combine quantitative and qualitative data, 2) Take a systematic qualitative or ethnographic approach, 3) Use an original and creative methodological approach, 4) Address an important but overlooked topic, 5) Present new theoretical or conceptual ideas; and 6) Present innovative context sensitive applications. Manuscript for publication consideration should show an awareness of the cultural context of the research questions asked, the measures used, the results obtained, and interpretations proposed. Finally, the papers should be practical, based on local experience, and applicable to crucial efforts in key areas of psychology for development in African cultural heritage and international settings.

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be reprinted or published without due copyright permissions. The Journal has a policy of anonymous peer review. Papers will be scrutinised and commented on by at least two independent expert referees or consulting editors as well as by an editor. A multi-layered manuscript review process is implemented to result in high quality publications: a peer review and developmental review. The peer review process addresses the *primaeface* merits of the manuscript's scientific contribution subject to the Editor's discretionary decision. The developmental review by the Editorial office advises the scientific writing presentation qualities of the manuscript. The Editor reserves the right to revise the final draft of the manuscript to conform to editorial requirements. A manuscript development support charge of US\$ 1575 is levied on all accepted manuscripts and payable to the journal's US Bank account. Instructions for remitting the publication levy are provided to lead or corresponding authors by the Editorial Office. Authors will receive 50 complimentary e-prints of their published article to distribute to their colleagues and promote their work.

Publishing ethics

By submitting to the Journal of Psychology in Africa for publication review, the author(s) agree to any originality checks during the peer review and production processes. A manuscript is accepted for publication review on the understanding that it contains nothing that is abusive, defamatory, fraudulent, illegal, libellous, or obscene. During manuscript submission, authors should declare any competing and/or relevant financial interest which might be potential sources of bias or constitute conflict of interest. The author who submits the manuscript accepts responsibility for notifying all co-authors and must provide contact information on the co-authors. The Editor-in-Chief will collaborate with Taylor and Francis using the guidelines of the Committee on Publication Ethics [<http://publicationethics.org>] in cases of allegations of research errors; authorship complaints; multiple or concurrent

(simultaneous) submission; plagiarism complaints; research results misappropriation; reviewer bias; and undisclosed conflicts of interest.

Manuscripts

Manuscripts should be written in English and conform to the publication guidelines of the latest edition of the American Psychological Association (APA) publication manual of instructions for authors. Manuscripts can be a maximum of 7 000 words.

Submission

Manuscripts should be prepared in MSWord, double spaced with wide margins and submitted via the journal's Editorial Manager system. Before submitting a manuscript, authors should peruse and consult a recent issue of the Journal of Psychology in Africa for general layout and style.

Manuscript format

All pages must be numbered consecutively, including those containing the references, tables and figures. The typescript of a manuscript should be arranged as follows:

- Title: this should be brief, sufficiently informative for retrieval by automatic searching techniques and should contain important keywords (preferably <13).
- Author(s) and Affiliation(s) of author(s): The corresponding author must be indicated. The author's respective affiliation where the work was done must be indicated. An e-mail address for the corresponding author must be provided.
- Abstract: Articles and abstracts must be in English. Submission of abstracts translated to French, Portuguese and/ or Spanish is encouraged. For data-based contributions, the abstract should be structured as follows: Objective – the primary purpose of the

paper, Method – data source, participants, design, measures, data analysis, Results – key findings, implications, future directions and Conclusions – in relation to the research questions and theory development. For all other contributions (except editorials, book reviews, special announcements) the abstract must be a concise statement of the content of the paper. Abstracts must not exceed 150 words. The statement of the abstract should summarise the information presented in the paper but should not include references.

- Text: (1) Per APA guidelines, only one space should follow any punctuation; (2) Do not insert spaces at the beginning or end of paragraphs; (3) Do not use colour in text; and (4) Do not align references using spaces or tabs, use a hanging indent.
- Tables and figures: These should contain only information directly relevant to the content of the paper. Each table and figure must include a full, stand-alone caption, and each must be sequentially mentioned in the text. Collect tables and figures together at the end of the manuscript or supply as separate files. Indicate the correct placement in the text in this form <insert Table 1 here>. Figures must conform to the journals style. Pay particular attention to line thickness, font and figure proportions, taking into account the journal's printed page size – plan around one column (82 mm) or two column width (170 mm). For digital photographs or scanned images the resolution should be at least 300 dpi for colour or greyscale artwork and a minimum of 600 dpi for black line drawings. These files can be saved (in order of preference) in PSD, PDF or JPEG format. Graphs, charts or maps can be saved in AI, PDF or EPS format. MS Office files (Word, Powerpoint, Excel) are also acceptable but DO NOT EMBED Excel graphs or Powerpoint slides in a MS Word document.

Referencing

Referencing style should follow latest edition of the APA manual of instructions for authors.

References in text: References in running text should be quoted as follows: (Louw & Mkize, 2012), or (Louw, 2011), or Louw (2000, 2004a, 2004b). All surnames should be cited the first time the reference occurs, e.g., Louw, Mkize, and Naidoo (2009) or (Louw, Mkize, & Naidoo, 2010). Subsequent citations should use et al., e.g. Louw et al. (2004) or (Louw et al., 2004). ‘Unpublished observations’ and ‘personal communications’ may be cited in the text, but not in the reference list. Manuscripts submitted but not yet published can be included as references followed by ‘in press’.

Reference list: Full references should be given at the end of the article in alphabetical order, using double spacing. References to journals should include the author’s surnames and initials, the full title of the paper, the full name of the journal, the year of publication, the volume number, and inclusive page numbers. Titles of journals must not be abbreviated.

References to books should include the authors’ surnames and initials, the year of publication, full title of the book, the place of publication, and the publisher’s name.

References should be cited as per the examples below:

Journal article

Peltzer, K. (2001). Factors at follow-up associated with adherence with adherence with directly observed therapy (DOT) for tuberculosis patients in South Africa. *Journal of Psychology in Africa*, 11(2), 165–185.

Book

Gore, A. (2006). *An inconvenient truth: The planetary emergency of global warming and what we can do about it*. Emmaus, PA: Rodale.

Edited book

Galley, K. E. (Ed.). (2004). *Global climate change and wildlife in North America*. Bethesda, MD: Wildlife Society.

Chapter in a book

Cook, D. A., & Wiley, C. Y. (2000). Psychotherapy with members of the African American churches and spiritual traditions. In P. S. Richards & A. E. Bergin (Ed.), *Handbook of psychotherapy and religiosity diversity* (pp 369–396). Washington, DC: American Psychological Association.

Magazine article

Begley, S., & Murr, A. (2007, July 2). Which of these is not causing global warming? A. Sport utility vehicles; B. Rice fields; C. Increased solar output. *Newsweek*, 150 (2), 48–50.

Newspaper article (signed)

Landler, M. (2007, June 2). Bush's Greenhouse Gas Plan Throws Europe Off Guard. *New York Times*, p. A7.

Unpublished thesis

Appoh, L. (1995). The effects of parental attitudes, beliefs and values on the nutritional status of their children in two communities in Ghana (Unpublished master's thesis). University of Trondheim, Norway.

Conference paper

Sternberg, R. J. (2001, June). Cultural approaches to intellectual and social competencies. Paper presented at the Annual Convention of the American Psychological Society, Toronto, Canada

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process. It is the author's responsibility to ensure the soundness of data. Any errors in the data rest solely with the producers of the data set(s).

Data availability statement: If there is a data set associated with the paper, please provide information about where the data supporting the results or analyses presented in the paper can be found. Where applicable, this should include the hyperlink, DOI or other persistent identifier associated with the data set(s). Templates are also available to support authors.

Data deposition: If you choose to share or make the data underlying the study open, please deposit your data in a recognized data repository prior to or at the time of submission. You will be asked to provide the DOI, pre-reserved DOI, or other persistent identifier for the data set.

#	Authors	Relevance to research question & aims?	Clear problem statement and aims?	Appropriate methodology?	Appropriate sampling?	Clearly indicated study results?	Appropriately interpreted study results?	Clear & appropriate conclusions & recommendations?	
1	Laurenceau et al., 2005	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
2	Weger, 2005	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
3	Eldridge et al., 2007	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
4	Seider et al., 2009	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
5	Segrin et al., 2009	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
6	Markman et al., 2010	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
7	McNulty & Russel, 2010	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
8	Duba et al., 2012	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
9	Rehman et al., 2011	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
10	Lavner & Bradbury, 2012	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
11	Carroll et al., 2013	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
12	Williamson et al., 2013	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include
13	Cao et al., 2015	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Include

Appendix B Critical Appraisal

Appendix C

Kappa K Rating

Authors	Observed agreement (PA)	Expected agreement (PC)	Kappa K	Include/Exclude
1. Laurenceau et al., 2005	0.85	0.5	0.7	Include
2. Weger, 2005	0.88	0.5	0.76	Include
3. Eldridge et al., 2007	0.81	0.49	0.63	Include
4. Seider et al., 2009	0.93	0.52	0.85	Include
5. Segrin et al., 2009	0.85	0.55	0.67	Include
6. Markman et al., 2010	0.89	0.67	0.67	Include
7. McNulty & Russel, 2010	0.89	0.5	0.78	Include
8. Duba et al., 2012	0.93	0.53	0.85	Include
9. Rehman et al., 2011	0.81	0.51	0.61	Include
10. Lavner & Bradbury, 2012	0.96	0.6	0.9	Include
11. Carroll et al., 2013	0.89	0.5	0.78	Include
12. Williamson et al., 2013	0.89	0.5	0.78	Include
13. Cao et al., 2015	0.92	0.5	0.84	Include

Appendix D

List of tables, figures and abbreviations

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Abbreviations

- National Institute for Health and Care Excellence (NICE)
- North-West University (NWU)
- United States of America (USA)
- Vereenigde State van Amerika (VSA)

Appendix E

Appendix F Quality appraisal checklist – quantitative intervention studies

Public health interventions comprise a vast range of approaches, from the relatively simple through to complex national policy interventions. As a consequence, research questions about the effectiveness and efficacy of public health interventions will typically rely on quantitative evidence from a range of sources (see [section 3.2](#)). This will include evidence from small (experimental) randomised controlled trials through to large-scale observational studies (see [appendix E](#) for an algorithm outlining the range of experimental and observational quantitative study designs).

Rather than include an exhaustive list of critical appraisal tools for each individual study design, this checklist^[a] is designed to be used for randomised controlled trials, case-control studies, cohort studies, controlled before-and-after studies and interrupted time series. It is based on the 'Graphical appraisal tool for epidemiological studies (GATE)', developed by Jackson et al. (2006), revised and tailored to be more suitable for public health interventions. It is anticipated that the majority of study designs used to determine the effect of an intervention on a (quantitative) outcome will be amenable to critical appraisal with this revised tool.

It enables a reviewer to appraise a study's internal and external validity after addressing the following key aspects of study design:

- characteristics of study participants
- definition of, and allocation to, intervention and control conditions
- outcomes assessed over different time periods
- methods of analyses.

GATE is intended to be used in an electronic (Excel) format that will facilitate both the sharing and storage of data, and through linkage with other documents, the compilation of research reports. Much of the guidance to support the completion of the critical appraisal form that is reproduced below also appears in 'pop-up' windows in the electronic version^[a].

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There are 5 sections of the revised GATE. Section 1 seeks to assess the key population criteria for determining the study's external validity – that is, the extent to which the findings of a study are generalisable beyond the confines of the study to the study's source population.

Sections 2 to 4 assess the key criteria for determining the study's **internal validity** – that is, making sure that the study has been carried out carefully, and that the outcomes are likely to be attributable to the intervention being assessed, rather than some other (often unidentified) factor. In an internally valid study, any differences observed between groups of patients allocated to receive different interventions may (apart from the possibility of random error) be attributed to the intervention under investigation. Biases are characteristics that are likely to make estimates of effect differ systematically from the truth. Each of the critical appraisal checklist questions covers an aspect of methodology that research has shown makes a significant difference to the conclusions of a study.

Checklist items are worded so that 1 of 5 responses is possible:

++	Indicates that for that particular aspect of study design, the study has been designed or conducted in such a way as to minimise the risk of bias.
+	Indicates that either the answer to the checklist question is not clear from the way the study is reported, or that the study may not have addressed all potential sources of bias for that particular aspect of study design.
–	Should be reserved for those aspects of the study design in which significant sources of bias may persist.
Not reported (NR)	Should be reserved for those aspects in which the study under review fails to report how they have (or might have) been considered.
Not applicable (NA)	Should be reserved for those study design aspects that are not applicable given the study design under review (for example, allocation concealment would not be applicable for case control studies).

In addition, the reviewer is requested to complete in detail the comments section of the quality appraisal form so that the grade awarded for each study aspect is as transparent as possible.

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Each study is then awarded an overall study quality grading for internal validity (IV) and a separate one for external validity (EV):

- ++ All or most of the checklist criteria have been fulfilled, where they have not been fulfilled the conclusions are very unlikely to alter.
- + Some of the checklist criteria have been fulfilled, where they have not been fulfilled, or not adequately described, the conclusions are unlikely to alter.
- Few or no checklist criteria have been fulfilled and the conclusions are likely or very likely to alter.

Checklist

Study identification: (Include full citation details)		
Study design: Refer to the glossary of study designs (appendix D) and the algorithm for classifying experimental and observational study designs (appendix E) to best describe the paper's underpinning study design		
Guidance topic:		
Assessed by:		
Section 1: Population		
1.1 Is the source population or source area well described? Was the country (e.g. developed or non-developed, type of healthcare system), setting (primary schools, community centres etc.), location (urban, rural), population demographics etc. adequately described?	++ + – NR NA	Comments:
1.2 Is the eligible population or area representative of the source population or area? Was the recruitment of individuals, clusters or areas well defined (e.g. advertisement, birth register)? Was the eligible population representative of the source? Were important groups under-represented?	++ + – NR NA	Comments:

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1.3 Do the selected participants or areas represent the eligible population or area?	++	Comments:
Was the method of selection of participants from the eligible population well described?	+	
What % of selected individuals or clusters agreed to participate? Were there any sources of bias?	NR	
Were the inclusion or exclusion criteria explicit and appropriate?	NA	
Section 2: Method of allocation to intervention (or comparison)		
2.1 Allocation to intervention (or comparison). How was selection bias minimised?	++	Comments:
Was allocation to exposure and comparison randomised? Was it truly random ++ or pseudo-randomised + (e.g. consecutive admissions)?	+	
If not randomised, was significant confounding likely (-) or not (+)?	NR	
If a cross-over, was order of intervention randomised?	NA	
2.2 Were interventions (and comparisons) well described and appropriate?	++	Comments:
Were interventions and comparisons described in sufficient detail (i.e. enough for study to be replicated)?	+	
Was comparisons appropriate (e.g. usual practice rather than no intervention)?	NR	
	NA	
2.3 Was the allocation concealed?	++	Comments:
Could the person(s) determining allocation of participants or clusters to intervention or comparison groups have influenced the allocation?	+	
Adequate allocation concealment (++) would include centralised allocation or computerised allocation systems.	NR	
	NA	
2.4 Were participants or investigators blind to exposure and comparison?	++	Comments:
Were participants and investigators – those delivering or assessing the intervention kept blind to intervention allocation? (Triple or double blinding score ++)	+	
If lack of blinding is likely to cause important bias, score –.	NR	
	NA	

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2.5 Was the exposure to the intervention and comparison adequate?	++	Comments:
Is reduced exposure to intervention or control related to the intervention (e.g. adverse effects leading to reduced compliance) or fidelity of implementation (e.g. reduced adherence to protocol)?	+	
Was lack of exposure sufficient to cause important bias?	NR	
	NA	
2.6 Was contamination acceptably low?	++	Comments:
Did any in the comparison group receive the intervention or vice versa?	+	
If so, was it sufficient to cause important bias?	NR	
If a cross-over trial, was there a sufficient wash-out period between interventions?	NA	
2.7 Were other interventions similar in both groups?	++	Comments:
Did either group receive additional interventions or have services provided in a different manner?	+	
Were the groups treated equally by researchers or other professionals?	NR	
Was this sufficient to cause important bias?	NA	
2.8 Were all participants accounted for at study conclusion?	++	Comments:
Were those lost-to-follow-up (i.e. dropped or lost pre-, during or post-intervention) acceptably low (i.e. typically <20%)?	+	
Did the proportion dropped differ by group? For example, were drop-outs related to the adverse effects of the intervention?	NR	
	NA	
2.9 Did the setting reflect usual UK practice?	++	Comments:
Did the setting in which the intervention or comparison was delivered differ significantly from usual practice in the UK? For example, did participants receive intervention (or comparison) condition in a hospital rather than a community-based setting?	+	
	NR	
	NA	

2.10 Did the intervention or control comparison reflect usual UK practice?	++ + – NR NA	Comments:
Did the intervention or comparison differ significantly from usual practice in the UK? For example, did participants receive intervention (or comparison) delivered by specialists rather than GPs? Were participants monitored more closely?		
Section 3: Outcomes		
3.1 Were outcome measures reliable?	++ + – NR NA	Comments:
Were outcome measures subjective or objective (e.g. biochemically validated nicotine levels ++ vs self-reported smoking –)?		
How reliable were outcome measures (e.g. inter- or intra-rater reliability scores)?		
Was there any indication that measures had been validated (e.g. validated against a gold standard measure or assessed for content validity)?		
3.2 Were all outcome measurements complete?	++ + – NR NA	Comments:
Were all or most study participants who met the defined study outcome definitions likely to have been identified?		
3.3 Were all important outcomes assessed?	++ + – NR NA	Comments:
Were all important benefits and harms assessed?		
Was it possible to determine the overall balance of benefits and harms of the intervention versus comparison?		
3.4 Were outcomes relevant?	++ + NR NA	Comments:
Where surrogate outcome measures were used, did they measure what they set out to measure? (e.g. a study to assess impact on physical activity assesses gym membership – a potentially objective outcome measure – but is it a reliable predictor of physical activity?)		

3.5 Were there similar follow-up times in exposure and comparison groups?	++ + NR NA	Comments:
If groups are followed for different lengths of time, then more events are likely to occur in the group followed-up for longer distorting the comparison.		
Analyses can be adjusted to allow for differences in length of follow-up (e.g. using person-years).		
3.6 Was follow-up time meaningful?	++ + – NR NA	Comments:
Was follow-up long enough to assess long-term benefits or harms?		
Was it too long, e.g. participants lost to follow-up?		
Section 4: Analyses		
4.1 Were exposure and comparison groups similar at baseline? If not, were these adjusted?	++ + – NR NA	Comments:
Were there any differences between groups in important confounders at baseline?		
If so, were these adjusted for in the analyses (e.g. multivariate analyses or stratification)?		
Were there likely to be any residual differences of relevance?		
4.2 Was intention to treat (ITT) analysis conducted?	++ + – NR NA	Comments:
Were all participants (including those that dropped out or did not fully complete the intervention course) analysed in the groups (i.e. intervention or comparison) to which they were originally allocated?		
4.3 Was the study sufficiently powered to detect an intervention effect (if one exists)?	++ + – NR NA	Comments:
A power of 0.8 (that is, it is likely to see an effect of a given size if one exists, 80% of the time) is the conventionally accepted standard.		
Is a power calculation presented? If not, what is the expected effect size?		
Is the sample size adequate?		

4.4 Were the estimates of effect size given or calculable? Were effect estimates (e.g. relative risks, absolute risks) given or possible to calculate?	++ + - NR NA	Comments:
4.5 Were the analytical methods appropriate? Were important differences in follow-up time and likely confounders adjusted for? If a cluster design, were analyses of sample size (and power), and effect size performed on clusters (and not individuals)? Were subgroup analyses pre-specified?	++ + - NR NA	Comments:
4.6 Was the precision of intervention effects given or calculable? Were they meaningful? Were confidence intervals or p values for effect estimates given or possible to calculate? Were CI's wide or were they sufficiently precise to aid decision-making? If precision is lacking, is this because the study is under-powered?	++ + - NR NA	Comments:
Section 5: Summary		
5.1 Are the study results internally valid (i.e. unbiased)? How well did the study minimise sources of bias (i.e. adjusting for potential confounders)? Were there significant flaws in the study design?	++ + -	Comments:
5.2 Are the findings generalisable to the source population (i.e. externally valid)? Are there sufficient details given about the study to determine if the findings are generalisable to the source population? Consider: participants, interventions and comparisons, outcomes, resource and policy implications.	++ + -	Comments:

Appendix F

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