THE SELF-REGULATION OF HEALTH-RELATED GOALS IN YOUNG ADULTS: A QUALITATIVE EXPLORATION

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Article-format dissertation submitted in partial fulfillment of the requirements for the degree Magister Artium (Clinical Psychology) at the Potchefstroom Campus of the North-West University

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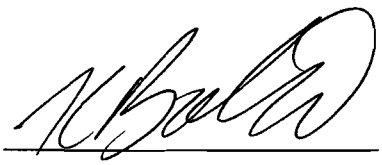
LETTER OF CONSENT

I, the co-author, K.F.H. Botha, hereby declare that the input and effort of Mrs. M.E. Terblanche is of sufficient scope to be a reflection of her own efforts. I hereby provide consent that she may submit this manuscript in article format for examination purposes in partial fulfillment of the requirements for the degree Magister Artium in Clinical Psychology.



Dr. K.F.H. Botha

SUMMARY

THE SELF-REGULATION OF HEALTH-RELATED GOALS IN YOUNG ADULTS: A QUALITATIVE EXPLORATION

Key words: [self-regulation, goals, health behaviour, young adults]

In this study it is argued that quality of health is predominantly influenced by health behaviour and health-risk behaviour. Self-regulation as an important factor in health and health-risk behaviour was operationalised by three phases, namely goal establishment, goal execution and self-reflection and adjustment. In addition, mindfulness is an important metacognitive skill applied throughout the process of self-regulation. The lack of research on self-regulation and health behaviour, especially with reference to South African youth and young adolescents is surprising. Health programmes seem to pay insufficient attention to the enhancement of self-regulatory skills in preventing health risk behaviour. Another limitation is the lack of qualitative data regarding self-regulation research.

This study aims to explore the self-regulation of health-related goals in a group of young adults. Insight to this process could contribute to the development of more appropriate health promoting programmes. A qualitative research design with content analysis as data analysis technique was applied. An availability sample of 92 participants, aged between 18 and 30, completed self-compiled questionnaires on health-risk behaviour and self-regulation.

Results indicate a high prevalence of health risk behaviour, supporting other South African findings. Various differences were found between participants engaging in high risk behaviour and those with low risk behaviour with reference to the phases and processes of self-regulation. The high risk group's *goal setting* seems to be problematic as it does not address identified high risk behaviours. This may be as a result of insufficient mindfulness in that they are ignorant of their health risk behaviour and its implication or alternatively, that they attempt to avoid the risk of failure. In addition, the high

risk group is more dependent on external *motivation* regarding health-related goals and is, therefore, more influenced by controlled regulation. In contrast, the low risk group more often relies on individual personal resources as a source of motivation for their health related goals. Furthermore, the high risk group experiences regulatory non-fit as their actions were more often inappropriate. No major differences were found between the groups concerning *stumbling blocks* and *self-observation*. Participants in the high risk group evaluate their performance less favourably and are more likely to experience negative emotions in the face of failure compared to participants in the low risk group.

When taking the whole self-regulation process into account, it can thus be concluded that participants of the high risk group have poor self-regulation in relation to participants in the low risk group. In general, the findings of this study support the findings of other researchers, confirming the importance of self-regulation in health and health-risk behaviour. The main implication is that there should be a much stronger emphasis on self-regulatory skills in health promotion and illness prevention programmes.

Certain limitations of this study were also taken into account. Future studies should consider the role of individuals' risk perceptions with regard to the goal establishment phases as well as the manner in which individuals deal with stumbling blocks in the action phase. Finally, the way in which self-regulation as a dynamic process should be accurately assessed is still not clear. As this study is one of the first to explore self-regulation from a qualitative perspective, future studies could shed more light on the usefulness of other qualitative and even mixed method designs.

OPSOMMING

DIE SELF-REGULERING VAN GESONDHEIDSVERWANTE GEDRAG IN JONG VOLWASSENES: 'N KWALITATIEWE ONDERSOEK

Sleutelwoorde: [selfregulering, doelwitte, gesondheidsgedrag, jong volwassenes]

In hierdie studie word geargumenteer dat die kwaliteit van gesondheid grootliks beïnvloed word deur gesondheidsgedrag en gesondheidsrisikogedrag. Selfregulering, 'n belangrike faktor in gesondheidsverwante gedrag, kan manifesteer in drie fases, naamlik doelwitvasstelling; doelwituitvoering en selfreflektering en aanpassing. Daarby is gedagtigheid *(mindfulness)* 'n belangrike metakognitiewe vaardigheid wat deurgaans toegepas word in die proses van selfregulering. Die gebrek aan navorsing oor selfregulering en gesondheidsgedrag, met spesifieke verwysing na die jeug en jong volwassenes in Suid-Afrika is opvallend. Dit blyk dat gesondheidsprogramme onvoldoende aandag skenk aan die bevordering van selfreguleringsvaardighede in die voorkoming van gesondheidsrisikogedrag. Nog 'n beperking is die gebrek aan kwalitatiewe data met verwysing na selfregulering navorsing.

Die studie poog om die selfregulering van gesondheidsverwante gedrag te ondersoek by 'n groep jong volwassens. Insig in die proses kan bydra tot die ontwikkeling van meer toepaslike gesondheidsbevorderingsprogramme. 'n Kwalitatiewe ondersoekontwerp met inhoudanalise as die data-analisetegniek was toegepas. 'n Beskikbaarheids-steekproef van 92 deelnemers, tussen die ouderdom van 18 en 30 jaar, het die saamgestelde vraelys oor gesondheidsverwante gedrag en self-regulering voltooi.

Die resultate toon 'n hoë voorkoms van gesondheidsrisikogedrag wat deur ander Suid-Afrikaanse navorsing gestaaf word. Verskeie verskille was gevind tussen deelnemers wat meedoen aan hoë risiko gedrag en diegene met lae riskiko gedrag met verwysing na die fases en proses van self-

regulering. Die hoë risiko groep se *doelwitstelling* blyk problematies te wees aangesien dit nie geïdentifiseerde hoë risiko gedrag aanspreek nie. Dit mag wees as gevolg van onvoldoende gedagtigheid, omdat hul oningelig is rakende hul gesondheidsrisikogedrag en die implikasies daarvan, of dat hulle poog om die risiko van mislukking te verhoed. Daarby is die hoë riskiko groep meer afhanklik van eksterne *motivering* met verwysing na gesondheidsverwante gedra, hulle word dus meer deur beheerde regulering beïnvloed. Daarteenoor vertrou die lae risiko groep meer op individuele persoonlike bronne as 'n bron van motivering vir hul gesondheidsverwante doelwitte. Voorts ervaar die hoë risiko groep regulering as wanpassing aangesien hul aksies meestal onvanpas was. Daar is nie groot verskille gevind tussen die twee groepe met verwysing na *struikelblokke* en *selfobservasie* nie. Deelnemers in die hoë risiko groep evalueer hul prestasie minder gunstig en is meer daartoe geneig om negatiewe gevoelens te ervaar as die deelnemers in die lae risiko groep.

Wanneer na die globale selfreguleringproses gekyk word, kan die gevolgtrekking gemaak word dat deelnemers van die hoë risiko groep swakker selfregulering het in verhouding tot deelnemers met lae risiko gedrag. In die algemeen ondersteun die resultate van hierdie studie ander navorsing, deurdat dit die belangrikheid van selfregulering in gesondheids- en gesondheidsrisikogedrag bevestig. Die vernaamste implikasie is dat heelwat groter klem op selfreguleringsvaardighede in gesondheidsbevorderings- en siektevoorkomingsprogramme geplaas moet word.

Bepaalde beperkinge van die studie was ook in ag geneem. Toekomstige studies moet die rol van individue se risikopersepsies met verwysing na die doelwitvasstellingfases oorweeg asook die wyse waarin individue struikelblokke in die aksiefase hanteer. Uiteindelik is die wyse om selfregulering as 'n dinamiese proses akkuraat te bepaal steeds onduidelik. Omdat hierdie studie een van die eerstes is om selfregulering uit 'n kwalitatiewe perspektief te bestudeer, kan toekomstige studies meer lig werp op die bruikbaarheid van ander kwalitatiewe en selfs gemengde ontwerpe.

INTENDED JOURNAL AND GUIDELINES FOR AUTHORS

JOURNAL OF HEALTH PSYCHOLOGY

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MANUSCRIPT

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TITLE

THE SELF-REGULATION OF HEALTH-RELATED GOALS IN YOUNG ADULTS: A QUALITATIVE EXPLORATION

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Abstract

The aim of this study was to explore the self-regulation of health-related behaviour in young adults. Student participants (N=92) aged between 18 and 30 completed questionnaires assessing health-risk behaviour and self-regulation. Content analysis was applied to compare participants with high and low health-risk behaviour according to three generic self-regulating phases. Results indicate that participants with high health-risk behaviour show more inappropriate goal establishment, are more influenced by controlled regulation, have a poor regulatory fit between actions and goals, experience negative self-reactions when confronted with failure and show lower mindfulness regarding certain aspects of self-regulation. Facilitating self-regulatory skills must be a priority in health promotion and illness prevention programmes.

Key words: [self-regulation, goals, health behaviour, young adults]

The quality of health is predominantly influenced by health-risk behaviour and health behaviour (Bandura, 2005). The leading causes of morbidity and mortality are not diseases as such, but are related to health-risk behaviour such as cigarette smoking, unprotected sexual intercourse, alcohol and other substance abuse (Brener, Billy & Grady, 2003). Health behaviour, in contrast, refers to activities undertaken by people in order to protect, promote or maintain health and to prevent disease. These activities include sufficient exercise, safe sex practices, a healthy diet and the effective management of stressors (Steptoe, Wardle, Vinck, Tuomisto, Holte & Wichstram, 1994).

Health and health-risk behaviour patterns are usually established during youth and young adulthood (Grunbaum et al., 2004), because it is during this phase that important lifestyle choices are made (Centers for Disease Control and Prevention, 2004). Health-risk behaviour may eventually result in chronic diseases such as cardiovascular disease, cancer, diabetes and HIV/AIDS, which are some of the foremost causes of mortality in South Africa (News-Medical.Net, 2004).

Self-regulation is an important but often neglected component of health and health-risk behaviour (Schwarzer, 2001). It is defined by Zimmerman (2000) as a dynamic process of decision making, performance, and self reflection. It is an indication of an individual's attempt to control his or her behaviour in time and across contexts in order to achieve self chosen goals. According to Vancouver and Day (2005), self-regulation refers to the processes involved in attaining and maintaining goals where goals are internally represented desired states. Maes and Karoly (2005) conceptualise self-regulation as a goal-guidance process aimed at the setting, attainment and maintenance of personal goals. The selection or activation of a particular health related goal initiates a process of self-regulation.

Most self-regulation models are rooted in three similar generic sub-functions or phases, namely (a) goal establishment, (b) goal execution, and (c) self-reflection and adjustment (Zimmerman, 2000; Vancouver & Day, 2005; Maes & Karoly, 2005). In addition, mindfulness is indicated as an important metacognitive skill that needs to be applied throughout these different phases (Shapiro & Schwartz, 2000; Brown & Ryan, 2003). Figure 1 depicts a summary of the self-regulation process.

Figure 1. The self-regulation process

PHASES						MINDFULNESS
PHASE 1 Goal establishment		**PHASE 2** Goal execution		**PHASE 3** Self-reflection and adjustment		
PROCESSES						
1.	Goal setting	1.	Appropriateness of actions	1.	Self-judgment	
2.	Motivation for goals	2.	Self-control	2.	Self-reaction	
2.1	origin of motivation	2.1	stumbling blocks			
2.2	outcome expectation					
3.	Self-efficacy to achieve goals	3.	Self-observation			
MINDFULNESS						

The first phase, *goal establishment*, refers to processes involved in selecting, adapting or rejecting a goal (Vancouver & Day, 2005). These influential processes precede efforts to act and create the ideal conditions for it (Schwarzer, 1999). In this study goal establishment is operationalised by three processes, namely (a) goal setting, (b) motivation for goals and (c) self-efficacy to achieve goals. According to Zimmerman (2000), goal setting refers to deciding upon specific outcomes. Motivation for goals includes two sub-categories, namely origin of motivation and outcome expectations. Ryan and Deci (2000) distinguish between autonomous or intrinsic motivation and controlled behaviour or extrinsic motivation regulation. Autonomous regulation occurs when a goal is chosen or emanates from oneself and is set because of personal priority. Controlled regulation occurs when a person feels coerced or pressured to attain a goal set by external or internal forces. Ryan and Deci (2000) indicate that autonomous regulation facilitates self-

regulation more effectively than controlled regulation as it encompasses more interest, excitement and confidence which, in turn, enhances performance, persistence, creativity, heightened vitality, self esteem and general well-being. Outcome expectations refer to beliefs about the ultimate ends of performance (Zimmerman, 2000). Self-efficacy to achieve goals refers to a person's judgment about his capabilities to learn or perform effectively (Zimmerman, 2000). According to Wood and Bandura (1989), self-efficacy refers to the belief in the capability to call up the motivation, cognitive resources and courses of action needed.

The second phase, *goal execution,* refers to processes involved in the preparation of pursuing a goal and in moving toward or maintaining a goal. According to Schmeichel and Baumeister (2004), this phase fosters self-directed intentional behaviour. Some of these abilities include planning, acting, persisting, self-control and troubleshooting (Schwarzer, 1999; Zimmerman, 2000; Schmeichel & Baumeister, 2004). In this study, goal execution was operationalised by (1) appropriateness of actions, (2) self-control processes and (3) self-observation. Appropriateness of actions refers to the extent to which actions address risk behaviour and established goals. According to Strayhorn (2002), people exercise self-control when they expend effort to accomplish a long-term goal. In other words, self-control processes help people to focus on the task and optimize their efforts (Zimmerman, 2000). A stumbling block is considered to be a self-control dilemma which represents an internal conflict between different behavioural plans, one of which is of greater long-term importance than the other (Fishbach & Shah, 2006). Self-observation refers to the monitoring of one's progress. In other words it refers to the tracking of specific aspects of own performance (i.e. thought patterns, emotional reactions and outcomes), the conditions that surround it and the effects that it produces. For those individuals who alter their behaviour or modify their environment, these insights may lead to corrective courses of action (Zimmerman, 2000).

Thirdly, the *self-reflection and adjustment phase* refers to a person's response to the execution phase (Zimmerman, 2000), for example, the possible change to, or disengagement from a goal (Vancouver & Day, 2005). This phase, in turn, influences the goal establishment phase. This phase was

operationalised by two processes, (a) self-judgment, and (b) self-reaction (Zimmerman, 2000). Self-judgment involves self-evaluation of one's performance by comparing self-monitored information with a standard or goal. Self-reaction involves firstly, perceptions of satisfaction or dissatisfaction and associated affect regarding one's performance and secondly, adaptive inferences which are conclusions about how one needs to alter his or her self-regulatory approach during subsequent efforts to learn or perform (Zimmerman, 2000). According to Carver (2004), feelings arise as a consequence of a feedback process that operates automatically. According to him, positive and negative affect signals a discrepancy between a goal and the rate of progress. It, therefore, acts as a signal for an individual to adjust the rate of progress (Carver & Scheier, 2000).

The final aspect of self-regulation, mindfulness, can be considered as an enhanced form of attention toward and awareness of a person's current experiences or present reality in relation to various standards (Brown & Ryan, 2003; Peterson & Seligman, 2004). According to Shapiro and Schwartz (2000), attention in itself is not sufficient but rather the intention behind it that would influence health behaviour. According to Shapiro and Schwartz (2000), mindfulness adds to conscious self-regulation.

Given the importance of self-regulation in health behaviour, limited related research, especially in the South African context, is surprising. Furthermore, health programmes also seem to pay insufficient attention to the enhancement of self-regulatory skills in preventing or minimizing health risk behaviour. Existing health programmes in South Africa focus primarily on efforts to educate, inform and increase awareness of chronic diseases (Graham, 2005). Other programmes advocate the establishment of support groups that can provide an empowering environment for individual and environmental change necessary to achieve an improved state of wellness (Moscou, 2006), as well as regular integrated checks for chronic diseases and related risk factors in order to improve health care (Katz et al., 2006). Although these efforts are important in changing health behaviour, they do not address health behaviour as an ongoing self-regulating process. Another related limitation is the lack of qualitative data regarding self-regulation research. Quantitative research methods tend to cast self-regulation as an

event rather than a process. This impedes the acquisition of in depth knowledge of an 'insider's' perspective with regard to the awareness and experience of self-regulation as a subjective process.

This study, therefore, aims to explore the self-regulation of health-related goals in a group of young adults. Specific aims are to explore the perception of their health-risk behaviour, the self-regulation of their health-related goals and finally, their experience of the process of self-regulation. Insight into these underlying processes could contribute to the development of more appropriate health promoting programmes.

Method

Participants

An availability sample of 92 young adults, primarily Afrikaans-speaking, aged 18 to 30 from the North-West University (Potchefstroom Campus) in South Africa took part in the study. The sample comprised 60 males and 32 females. Participants were registered at two different faculties, 60 of which were graduate students and 32 post-graduate students.

Procedure and ethical aspects

Approval for the study was obtained from the Ethics Committee of the University (approval number: 06K20). Participants were approached during lectures. The research was explained and they were informed that participation in the study was completely voluntary. Volunteers signed consent forms for participation in the study, including permission for the research findings to be published. Participants' identities were kept strictly confidential.

Data Collection

Biographical data, views on health-risk behaviour, and the process and experience of self-regulation were assessed with a self-compiled, semi-structured questionnaire. Eight different health behaviours based on studies by Peltzer (2000), the Department of Health (2002) the Reproductive Health Research Unit (2006) and Risser, Vash and Nieto (2005) were assessed,

namely substance abuse, sexual behaviour, physical activity, dietary behaviour, personal hygiene, traffic safety, exposure to environmental noise and self-management of medication. Items were Likert-type questions, expressed on a four-point scale: 'never', 'rarely', 'occasionally', and 'frequently' and were introduced with: 'Indicate how often you engage in the following activities': for example, 'smoking tobacco' and 'engaging in physical exercise or sport'.

The section on self-regulation consisted of 11 open ended questions which focused on the three generic phases of self-regulation as described in the literature review. For example, 'what goals do you have to improve your health?', 'what actions do you take to achieve or maintain your health-related goals?' and 'how do you respond when you realise you are not achieving your health-related goals?'

Data analysis

Participants were divided into a high risk and low risk health behaviour group according to their responses on the health behaviour section of the questionnaire. The literature was consulted to obtain an indication of criteria for cut-off points relating to risk behaviour. For example, even rarely having more than one sexual partner was considered to be high risk behaviour. The reason for this is that any single incident in this category could have detrimental consequences. Participants with one or more high risk behaviour were calculated in the high risk group (See Appendix A for a detailed exposition of high risk and low risk behaviour in relation to the compiled frequency categories.).

Content analysis, which can be described as the identification of themes, topics and symbols through coding (Babbie, 2002; Berg, 1998) were then applied to compare the two identified groups. Data were studied to obtain an overview of the participants' responses. Open coding was then applied, identifying broad themes which, in turn, were refined during axial coding in order to ensure that the data were correctly represented. Finally, the themes were coded selectively in order to obtain a thorough understanding of the self regulation of the participants' health related goals.

Themes were classified as being either major or minor, using an arbitrary 20% frequency as cut-off point. This seemed to be the most appropriate cut-off point as most dense theme clusters were identified at a minimum level of 20% frequency. In contrast to this, themes below 20% frequency were less closely grouped. Discussions focus mainly on major themes. Identified themes are reported in terms of importance by way of rank order.

Trustworthiness

Guba's model (*in* Krefting, 1991) was applied to ensure the criteria of credibility, transferability, dependability and confirmability. *Credibility* was achieved by triangulation i.e. by means of methods triangulation, data triangulation and triangulation through multiple analysts. *Transferability* was mainly achieved by conducting a literature control. *Dependability* of the extracted themes and sub-themes was achieved by means of a dense description of the data. Furthermore, these themes were coded by the researcher and verified by a co-coder. *Confirmability* was achieved by applying an audit trial of the entire research process

Results and discussion

Perceived health-risk behaviour

Table 1 shows that the majority of participants (66.3%) engage in high risk behaviour compared to 33.7% who engage in low risk behaviour. Marked differences were found between participants with high risk and those with low risk behaviour in relation to gender as 56.3% of women engage in high risk behaviour compared to 71.7% of men. Peltzer (2000) also reported young women's behaviour to be significantly healthier than that of men. Although this difference is noteworthy, the aim of the study is to view self-regulation in a global context, regardless of gender. Gender differences, will therefore, not be addressed in the subsequent discussions.

Table 1. Health Risk Behaviour according to gender (N=92)

GENDER	TOTAL	HIGH RISK Total (%)	LOW RISK Total (%)
Male	N = 60	43 (71.7)	17 (28.3)
Female	N = 32	18 (56.3)	14 (43.8)
Total	N = 92	61 (66.3)	31 (33.7)

In Table 2 a summary of the number and percentage of participants who engage in the different categories of high risk behaviours is presented.

Table 2. Participants' Health Risk Behaviour (N=92)

HEALTH RISK BEHAVIOUR (N = 92)	NUMBER AND PERCENTAGE OF PARTICIPANTS
SUBSTANCE ABUSE	**Total (%)**
Tobacco smoking	15 (16.3)
The consumption of more than two alcoholic beverages per day.	5 (5.4)
The use of substances other than alcohol or tobacco.	0 (0.0)
SEXUAL BEHAVIOUR	
Having unprotected sexual intercourse.	22 (23.9)
Having more than one sexual partner.	9 (9.8)
PHYSICAL ACTIVITY	
Insufficient engagement in physical exercise / sport.	5 (5.4)
DIETARY BEHAVIOR	
Using destructive ways in order to lose weight	7 (7.6)
Not eating balanced meals regularly	16 (17.4)
Eating fast foods	26 (28.3)
PERSONAL HYGIENE	
Not ensuring personal hygiene regularly	1 (1.1)

TRAFFIC SAFETY	
Reckless driving	7 (7.6)
ENVIRONMENTAL HEARING RISK	
Listening to very loud music	31 (33.7)
SELF-MANAGEMENT OF MEDICATION	
Non-compliance	7 (7.6)

With reference to substance abuse, 16% of the participants have high risk smoking behaviour and 5.4% engage in high risk drinking behaviour. None of the participants engage in high risk substance abuse behaviour other than that of alcohol or tobacco. In comparison, Peltzer (2000) reported lower smoking (10%) and higher drinking (16%) risk behaviour in black South African university students.

In terms of sexual behaviour, 23.9% of the participants have unprotected sexual intercourse and 9.8% participants report having more than one sexual partner. These findings are significantly lower than the findings reported by the Reproductive Health Research Unit (2006) who conducted a national survey among young South Africans between the ages of 15 and 24. Their findings indicate that 65% of young people have more than one sexual partner and that 48% of young adults engage in unprotected sex. The South African National Youth Risk Behaviour Survey compiled by the Department of Health (2002) reports that 54% of youth had two or more sexual partners and 28.1% use no contraception. This disparity could possibly be explained by the fact that the participants of this study are from a higher socio-economic status who normally show lower sexual risk behaviour (Cogneau & Grimm, 2005).

Only 5.4% participants engage in high risk behaviour by never participating in physical activities or sport. With reference to dietary behaviours, 7.6% participants engage in high risk behaviour in order to lose weight. The majority of respondents eat balanced meals compared to 17.4% who do not, along with 28.3% participants who eat fast foods on a regular basis. In comparison, the Department of Health (2002) reported that 46% of the youth in SA frequently consume unhealthy food. Only 7.6% participants

report that they regularly drive recklessly, whereas 33.7% participants regularly listen to very loud music. No comparative results could be found for these two categories.

Only 7.6% participants are non-compliant in terms of medication prescriptions. The latter is in contrast with a study conducted by Risser, Vash and Nieto (2005), which indicates that medication compliance among South Africans is notoriously poor under all conditions, with reported rates of non-compliance ranging from 53% to 95%. The reason for this contradiction could lie in the methodology used to indicate high risk behaviour in this regard. Only participants who never comply in terms of medication prescriptions were considered to exhibit high risk behaviour, whereas other studies usually apply less strict guidelines. Another explanation for this could be that participants in this study overestimated their level of compliance.

In summary, the risk behaviour most often engaged in by this group of participants is listening to loud music, followed by eating fast foods and having unprotected sexual intercourse. The lowest risk was with regard to the use of substances other than alcohol or tobacco and frequent neglect of personal hygiene. This supports other studies in general. The Department of Health (2002) indicates unsafe sexual practices as the health risk behaviour that is mostly engaged in, followed by the consumption of unhealthy food and then by limited physical activity. The use of substances other than alcohol or tobacco also seems to be the lowest risk indicated. Peltzer (2000) found unhealthy eating behaviour to be the highest health risk behaviour followed by lack of physical exercise. Tobacco smoking was indicated to be the lowest health risk behaviour. None of these studies included 'listening to very loud music' as health risk behaviour.

Differences in the self-regulation of health-related goals between participants with high risk behaviour and those with low risk behaviour

Phase One – Goal Establishment

Goal Setting

Table 3 depicts a summary of the health related goals established by the two groups of participants.

Table 3. Health Related Goals

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Physical wellbeing	1.	Improve diet & vitamin intake
2.	Improve diet & vitamin intake	2.	Physical wellbeing
3.	Decrease or stop substance use		
Minor Themes (Frequency < 20%)			
4.	Weight loss	3.	Decrease or stop substance use
5.	Healthy and balanced lifestyle	4.	Healthy and balanced lifestyle
6.	Regular and enough sleep	5.	Weight loss
7.	Psychological wellbeing	-	Regular and enough sleep
8.	Have protected sex	7.	Psychological wellbeing
		8.	Avoid places with too loud music

Both groups have eight health related goals. The first seven of these goals are exactly the same, whilst only the last goal differs. Differences are, however, noted in the structure and priority of these goals. The high risk group had 3 major and 5 minor goals, whereas the low risk group had 2 major and 6 minor goals. *Physical wellbeing* was the most important goal for the high risk group and the second most important goal for the low risk group. Examples of physical wellbeing goals include: (a) `I want to improve my body image and become fit', (b) `I want to start participating in sport' and (c) `I want to go to the gym and taking part in sport'. The fact that physical wellbeing was indicated by both groups as a major health related goal is surprising, as only 5% of participants were placed in the category of high risk behaviour with regard to physical exercise or sport. This might indicate that the motivation for people to engage in physical activities or sport may be influenced by other sources such as enjoyment, the media, or the need to look good rather than avoiding a perceived health risk.

Improved diet and vitamin intake, in comparison, was the most important goal for the low risk group and the second most important goal for the high risk group. Examples of this goal include: (a) `Stay on a healthy, well-balanced diet and do regular exercises', (b) `Eat healthier, drink more water and regularly take vitamins' and (c) `Try and eat as little as possible junk food, try and prepare food in a healthier manner and try and exercise every day'. This goal seems to roughly correlate with the proportion of participants who engage in high risk dietary behaviour (compare Table 2).

To *decrease or stop substance use* was the third most important goal for both groups. It is interesting to note, however, that it was a major goal for the high risk group and only a minor goal for the low risk group. This could be attributed to the fact that the low risk group does not exhibit high risk behaviour in this category and, therefore, did not set it as a major goal. It could also be explained by the fact that the major goals of the low risk group focus more on the improvement of their overall physical health rather than on the reduction of risk behaviour.

Minor goals are in general similar for the two groups. The high risk group, however, had no goal relating to the *avoidance of loud music*, whereas the low risk group had no goals relating to *having protected sex*, which could be explained by the fact that this group does not engage in high risk sexual behaviour. It was noticeable that although *listening to very loud music* was indicated in Table 2 as the highest health risk behaviour, only one respondent from the high risk group had set a goal to avoid places with very loud music. *Unsafe sexual practices* were also found to be one of the highest health risk behaviours and again only one respondent from the high risk group had set a goal to have protected sex.

These discrepancies could suggest insufficient mindfulness in participants from the high risk group in that they are not aware of their health risk behaviours or of the implications thereof. It can, therefore, be inferred that they had not set related goals in this respect. According to Locke and Latham (1990), goal-setting provides a focused awareness of one's behaviour which is an important characteristic of sufficient mindfulness. In addition, Brown and Ryan (2003) indicated that insufficient mindfulness has a negative influence on self-regulation. It could, therefore, be expected that participants from the

high risk group may have insufficient mindfulness, especially with regard to goal-setting, which would negatively influence their self-regulation.

Motivation for Establishing Health-Related Goals

Table 4 depicts a summary of the motivation for establishing health-related goals according to (a) origin of motivation and (b) outcome expectations.

Table 4. Motivation for establishing health-related goals

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
(1) ORIGIN OF MOTIVATION			
Major Themes (Frequency ≥20%)			
1.	*Others	1.	Myself & Others
2.	Myself & Others	2.	Myself
3.	Myself		
Minor Themes (Frequency < 20%)			
		3.	Only others
(2) OUTCOME EXPECTATIONS			
Major Themes (Frequency ≥20%)			
1.	Psychological wellbeing	1.	General wellbeing
2.	Physical wellbeing	2.	Physical wellbeing
3.	General wellbeing	3.	Psychological wellbeing

*Other = family members, friends, media, role models, spouse or partner, God

It is clear from Table 4 that the high risk group is more dependent than the low risk group on external motivation in establishing health related goals. They indicated that their first major source of motivation was *others.* This was followed by *myself and others* and finally *myself.* In contrast the low risk group more often relies on a combination of their own and external resources (*myself and others)*, followed by *myself.* Only a small number of participants in this group rely on external sources of motivation.

Based on these findings it can be argued that the high risk group is more prone to be influenced by controlled regulation. It could, therefore, be expected that the high risk group's self-regulation will be facilitated less effectively.

There are also differences in the priority of outcome expectations for the two groups. The highest priority for the low risk group is *general wellbeing* followed by *physical wellbeing* and then by *psychological wellbeing.* In contrast, the highest priority for the high risk group was psychological wellbeing, followed by physical wellbeing and general wellbeing. Examples of *general wellbeing* include (a) 'I want a happier, balanced and healthy life' and (b) `I want to protect my health with the purpose of reaching my full potential in order to function optimally and to make use of each opportunity and second of my life'. One participant indicated *psychological wellbeing* by the following quotation: `I want to feel nice... and more comfortable with my body'. Examples of *physical wellbeing* include (a) `High fitness level and improve physical appearance' and (b) 'Good health and general fitness'.

It is interesting to note that the high risk group's highest priority is to achieve psychological wellbeing whereas it is the lowest priority for the low risk group. An explanation for this could be that the low risk group seems to have a more balanced focus as general wellbeing includes both psychological and physical wellbeing. Furthermore, the possibility exists that the low risk group perceives their psychological wellbeing as being sufficient and may, therefore, experience less of a need to enhance it. It could also be explained by the fact that the low risk group does not engage in high risk behaviour and, therefore, do not have more specific outcome expectations.

Self-efficacy in Achieving Goals

Table 5 depicts a summary of the participants' perceived self-efficacy in achieving health related goals.

Table 5. Self-efficacy of participants in achieving health related goals

HIGH RISK GROUP (N = 61)	LOW RISK GROUP (N = 31)
Major Themes (Frequency ≥20%)	
1. Good	1. Good
2. Average	2. Poor
3. Poor	
Minor Themes (Frequency < 20%)	
	3. Average

Both groups judged their capabilities relatively similar as the majority perceive their self-efficacy as *good, for example*: (a) `Good, because I have a lot of self-control' and (b) `I am very motivated and therefore able to achieve my goals'. An average perceived self-efficacy was the second theme for the high risk group and only a minor theme in third place for the low risk group. One example of *average* self-efficacy is: `I think I can, I just need to reach the point where I really want to. I am already a lot closer to it than before'. Examples of *poor self-efficacy* include: (a) `It is not very easy. I live in the hostel and am addicted to caffeine' and (b) `I am too lazy to achieve my goals'.

It is surprising that participants in the high risk group rated their self-efficacy as *good* followed by *average* and then by *poor*, which is in reverse order of what was expected. It is, furthermore, surprising that more participants in the low risk group rated their self-efficacy as *poor,* relative to *average*. Vancouver and Day (2005) in reference to the work of Bandura indicate that those with a belief in their capacity to perform will more likely accept and commit to difficult performance goals, will put more effort towards realising their goals and will more likely persist in stressful situations than the low self-efficacy group of individuals. One would, therefore, expect to find low self-efficacy in the high risk group and high self-efficacy in the low risk group.

This unexpected result could possibly be explained by the fact that although investigators have demonstrated self-efficacy to be a robust predictor of behavioural initiation, most empirical investigations have thus far failed to consider whether it has an effect at specific points in the behaviour change process (Rothman, Baldwin & Hertel, 2004). It could also be explained by the fact that perceived self-efficacy did not play a significant role in the effective self-regulation of health-related goals in this study. Yet another explanation could be that participants of the high risk group tend to overestimate their ability to achieve health-related goals successfully.

Phase 2 – Goal Execution

Appropriateness of actions

Table 6 depicts a summary of the appropriateness of the participants' actions in order to address their health related goals.

Table 6. Appropriateness of actions

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Inappropriate	1.	Appropriate
2.	Appropriate	2.	Inappropriate

Clear differences exist between the two groups with regard to the appropriateness of their actions. More actions in the high risk group were inappropriate in contrast to the low risk group. Appropriate actions could be be illustrated by the following quotations: (a) `Do thorough planning and comply with it to the best of my abilities. The best way to get results is to do something about it' and (b) `Plan and compile for example an exercise schedule. Each day make goal directed decisions for it to become a habit'. Examples of inappropriate actions include: (a) `Rather have an enjoyable party on my own than to feel I need alcohol to assist me', and (b) `I haven't decided'.

According to Higgins (2006), people experience regulatory fit when their goal orientation is sustained by the actions they take to achieve their goals, and they experience non-fit when their goal orientation is disrupted by the manner of their goal pursuit. It could, therefore, be concluded that the high risk group mainly demonstrates non-fit whilst the low risk group mainly demonstrates regulatory fit. The low risk group will, therefore, probably experience the self-regulatory process as more positive and worthwhile compared to the high risk group (Higgins, 2006).

Self-control processes

Table 7 depicts a summary of major self-control processes used by the participants.

Table 7. Self-control

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Self-instruction / self-motivation / imagery	1.	Self-instruction / self-motivation / imagery
2.	None or vague	2.	Concrete / directed planning
3.	Concrete / directed planning	3.	None or vague
Minor Themes (Frequency < 20%)			
4.	Rely on external support / indicators	4.	Rely on external support / indicators

Three major self-control processes were identified for the two groups, namely (a) *self-instruction, self-motivation and imagery*, (b) *concrete or directed planning*, and (c) *none or vague processes*. The same minor theme emerged for both groups, namely to *rely on external support or indicators*.

Self-instruction, self-motivation and imagery were the most frequent utilised self-control processes in both groups. This theme may be illustrated by the following quotations: (a) `I visualize successful outcomes and results in my life'; (b) `I keep healthy food in mind when I go shopping' and (c) `I talk to myself and telling me that I am only doing it for myself'.

Following this, participants in the low risk group make use of concrete or directed planning, which assists them by reducing a task to its essential parts and then reorganizing the parts meaningfully (Zimmerman, 2000). This theme may be illustrated by the following quotations: (a) Weigh the pro's and con's of being unhealthy, sick and unfit... find it would benefit me more to live a healthy lifestyle' and (b) `Planning a balanced exercise programme and focus on what and when I eat'. The third theme for this group's self-control processes was vague or non-existing. In contrast, vague or non-existant self control was the second most important for the high risk group, followed by concrete or directed planning. It seems that the high risk group may be more likely to assimilate passive self-control processes. It could, therefore, be expected that individuals with high risk behaviour may experience more difficulty in resisting temptations and focusing on their goals.

Table 8 depicts a summary of participants' perception of stumbling blocks that interfere with the attainment of health related goals.

Table 8. Stumbling Blocks

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Difficulty in resisting temptations	1.	Difficulty in resisting temptations
2.	External stumbling blocks	2.	External stumbling blocks
3.	Internal motivational stumbling blocks	3.	Internal motivational stumbling blocks
Minor Themes (Frequency < 20%)			
4.	Stress	4.	Poor habits
5.	Physical disabilities	5.	Stress
6.	Nothing	5.	Nothing
7.	Poor habits	6.	Physical disabilities

The majority of stumbling blocks perceived by the two groups centre around three major themes namely: (a) difficulty in resisting various temptations, (b) external stumbling blocks (i.e., time limitations, limited financial resources and insufficient social support) and (c) internal motivational stumbling blocks (i.e., laziness, little motivation, tiredness, discouragement, poor self-confidence and state of mind). These stumbling blocks are ranked equally for both groups. The same four minor themes, except for differences in their priorities, were selected for both groups.

It is thus clear that both groups experience a number of challenging stumbling blocks in the execution of health behaviour. *Temptations* were indicated as the main stumbling block for both groups, suggesting that individuals from both groups strive towards multiple, often inconsistent goals (Fishbach & Shah, 2006). The difference between the two groups then seems not to be the stumbling blocks themselves, but rather the way in which they react to these stumbling blocks. According to Fishbach and Shah (2006), self-control strategies are essential to increase the likelihood of

adhering to long-term goals and decrease the likelihood of succumbing to temptations. Furthermore, they indicate that deliberate and complex self-control operations are often accompanied by more automatic and efficient self-regulation associations. Individuals with efficient self-regulation mechanisms may automatically inhibit distractors or temptations, facilitate the activation of overriding goals, or activate implementation strategies for these goals.

Both groups also seem to exhibit increased awareness and attention regarding their current experiences or the situational reality of stumbling blocks. It could, therefore, be concluded that both groups are mindful concerning their stumbling blocks. According to Brown and Ryan (2003), mindfulness may in fact be important in disengaging individuals from being a victim of stumbling blocks. Mindfulness, specifically increased awareness regarding stumbling blocks could play a vital role in fostering informed and self-endorsed behaviour regulation, which has been associated with well-being enhancement. A question then arises as to how the different groups would actually react to these stumbling blocks, rather than merely being aware of them.

Self-observation

Table 9 gives a summary of the way in which participants monitor their progress.

Table 9. Monitoring progress

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Negative / unclear / vague / insufficient	1.	Negative / unclear / vague / insufficient
2.	Positive / constructive	2.	Positive / constructive

No differences were noted between the two groups. It is surprising, however, to see that both groups predominantly employ *negative, unclear, vague or insufficient* ways to monitor their progress. Examples of this theme

include: (a) `I don't know if there is in fact progress', and (b) `I look at myself in the mirror and feel my health'. Examples of *positive or constructive* monitoring processes include: (a) `To me a food diary and an exercise chart are crucial', and (b) `I indicate on a calendar when last I smoked and reward myself when it looks promising'.

According to Bandura (2001), monitoring one's progress is the first step towards doing something to affect it. Peterson and Seligman (2004) support this point of view and indicate that the monitoring process automatically scrutinizes the environment for indications of failure which is then followed by an adjustment of actions. It could, therefore, be concluded that there is no difference between the two groups and that both groups may experience difficulty in searching for indicators of failure and adjusting their behaviour accordingly. It is also possible that monitoring progress is not really a differentiating factor in the self-regulation of health behaviour.

Phase 3 – Self-Reflection and Adjustment

Self-judgment

Table 10 depicts a summary of the participants' self-judgment.

Table 10. Self-judgment

HIGH RISK GROUP (N = 61)		**LOW RISK GROUP (N = 31)**	
Major Themes (Frequency ≥20%)			
1.	Average	1.	Good
2.	Poor	-	Average
3.	Good		
Minor Themes (Frequency < 20%)			
4.	Don't know	3.	Poor
		4.	Don't know

Participants of the high risk group assess their performance less favourably than those of the low risk group seeing that they mainly consider their performances as *average*. Examples of the theme labeled *average* include: (a) `50% is achieved', and (b) `on an average level'. In contrast, participants of the low risk group predominantly appraise their performance

equally as *good* and *average*. The theme labelled *good may* be illustrated by the following quotations: (a) `Very good, I have a lot of self-control', and (b) `To a large extent'. The theme labelled p*oor* may be illustrated by the following quotations: (a) `There are still days that I eat unhealthy and drink too much alcohol' and (b) `Quite diligent when it comes to exercising and not eating a lot'.

The results confirm the important role of self-evaluation in self-regulation. According to Maddux (2005), individuals' beliefs about the progress they are making (or not making) in achieving their goals are to be viewed as major determinants of their emotional reactions during goal-directed activity.

Self-reactions to failure

Table 11 gives a summary of the respondents' self-reactions to failure.

Table 11. Self-reaction to failure

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Negative emotion, no action	1.	Constructive action
2.	Negative emotion, constructive action	2.	Negative emotion, no action
3.	Constructive action		
Minor Themes (Frequency < 20%)			
4.	Destructive action	3.	Negative emotion, constructive action
5.	Negative emotion, destructive action	4.	Destructive action
		5.	Negative emotion, destructive action

Marked differences regarding the priority of themes between the two groups exist. The most common self-reaction in the high risk group was *negative emotion with no action*. This reaction was listed second by the low

risk group. Examples include: (a) `I become negative and irritated', and (b) `I go ballistic'. In contrast, *constructive action* was the most frequent self-reaction in the low risk group and only third in high risk group. Examples of this theme are: (a) `I make another action plan that differs from the original one', and (b) `I will try again and motivate myself for better performance'.

Negative emotion, constructive action was the second most frequent self-reaction in the high risk group and only third, as a minor theme, in the low risk group. Examples include: (a) `I am disappointed in myself and try to make alternative plans in order to achieve my goals', and (b) `I become frustrated and irritated with myself and try again'.

According to Maddux (2005), emotional reactions may enhance or disrupt self-regulation. It is, therefore, possible that the high risk group would be more likely to experience negative emotions in the face of failure which, in turn, would disrupt the self-regulation process. These findings are supported by Brandstädter and Rothermund (2002) who indicate that individuals experience dissatisfaction and depression when goals become unattainable or exceed their resources. In reaction to these negative feelings the majority of the high risk group seems to be passive regarding the utilization of information and does not persist in their actions. In contrast, it is clear that the majority of participants in the low risk group engage in constructive methods in order to decrease perceived discrepancies. Participants in the low risk group thus seem to have more internal resources to regulate responses actively in order to acquire a desired state. According to Schmeichel and Baumeister (2004), these regulatory resources are required to resolve self-regulation challenges successfully. This mechanism is referred to as self-regulatory strength, defined by Schmeichel and Baumeister (2004) as internal resources available to inhibit, override or alter responses that may arise as a result of physiological processes, habit, learning or the press of the situation.

It seems evident that the low risk group more often engages in constructive actions without displaying emotional responsiveness. According to Carver and Scheier (2000), individuals experience no feelings only when there is in fact no discrepancy. This could possibly be explained by the fact that participants of the low risk group do not engage in high risk behaviour and, therefore, do not observe failure as detrimental to their health.

The experience of the self-regulation process

According to Higgins, Grand and Shah (1999), individuals experience positive feelings such as pleasure when self-regulation is applied properly in contrast to pain when it is applied improperly. According to these authors, negative or positive feelings, therefore, depend on self-regulatory effectiveness. Table 12 provides a summary of the participants' experiences of the self-regulation process.

Table 12. Experience of the Self-regulation process.

HIGH RISK GROUP (N = 61)		LOW RISK GROUP (N = 31)	
Major Themes (Frequency ≥20%)			
1.	Positive feelings	1.	Positive feelings
2.	Negative feelings	2.	Negative feelings

Two major themes were identified for both groups, namely *positive feelings* and *negative feelings. Positive feelings* can be illustrated by the following examples: (a) `Difficult but the results make it worthwhile', and (b) `It is self-fulfilling to achieve and succeed in what you have set for yourself'. Examples of *negative feelings* include: (a) `It is very stressful and dramatic', and (b) `Quite difficult, especially making time for exercising, academics and socialising'.

As suggested in Table 12, there are no major differences between the two groups with regard to their experiences of the process. It is, however, surprising that the high risk group also experienced positive feelings more often than negative feelings as their self regulation may have been expected to be less effective. These findings are in contrast with Higgins' (2006) anticipation that individuals with regulatory fit would probably experience the self-regulatory process as more positive and worthwhile. This could be explained by the fact that errors of omission feel more favourable than errors of commission (Camacho, Higgins & Luger, 2003). Participants in the high risk group already demonstrated insufficient mindfulness during goal-setting, which initiates the process of self-regulation. They may, therefore, avoid setting difficult goals in order to avoid the risk of failure. Positive feelings are,

therefore, based on goals and actions which are not directed at the avoidance and lessening of related health risk behaviour. According to Camacho, Higgins and Luger (2003), the regulatory fit principle produces an experience that whatever is being done is correct or proper. This adds an element to the experience that may be more than just a pleasant feeling. It is, therefore, important to determine not only the participants' experiences in terms of positive or negative feelings, but also in terms of feelings of right or wrong.

Conclusion

The aim of this study was to explore the self-regulation of health-related goals in a group of young adults. Specific aims were to explore the perception of their health-risk behaviour, the self-regulation of their health-related goals and finally, their experience of the process of self-regulation.

Results indicate a high prevalence of health risk behaviour, especially in male participants, supporting other South African findings (Department of Health, 2000; Peltzer, 2000). Various differences and similarities were found between participants engaging in high risk behaviour and those with low risk behaviour with reference to these phases and processes of self-regulation.

With reference to phase 1 of self-regulation, the high risk group's *goal setting* seems to be problematic as it does not address identified high risk behaviours. This may be as a result of insufficient mindfulness, in that they are ignorant of their health risk behaviour and its implication or, alternatively, that they attempt to avoid the risk of failure. In addition, the high risk group is more dependent on external *motivation* regarding health-related goals and is, therefore, more influenced by controlled regulation. In contrast, the low risk group seems to set goals to improve their health status, even though they do not exhibit high risk behaviour. Furthermore, they more often rely on individual personal resources as a source of motivation for their health related goals. No differences were found between the groups in terms of their *self-efficacy to achieve goals* as both groups generally display optimistic self-beliefs. It could, therefore, be concluded that in this study, self-efficacy does not have a significant influence on the self-regulation process. In other words,

participants' judgments about their capabilities to execute goals do not facilitate movement from one phase to another.

With reference to phase 2, clear differences exist between the groups concerning the *appropriateness of actions*. The high risk group mainly experiences regulatory non-fit as their actions were more often inappropriate. In contrast the low risk group experiences regulatory-fit, indicated by the fact that their goal orientations are more often sustained by appropriate goal directed actions. Both groups primarily use effective *self-control strategies,* but a significant part of the high risk group also displays passive self-control processes. No major differences were found between the high risk and the low risk group concerning *stumbling blocks* and *self-observation*. It could, therefore, be concluded that the existence of stumbling blocks does not seem to be as important as the manner in which they are dealt with and that constructive ways of monitoring progress does not necessarily seem to be a differentiating factor in the self-regulation process.

Clear differences also exist between the groups with reference to the third phase. As far as *self-judgment is concerned*, participants in the high risk group evaluate their performance less favourably compared to participants of the low risk group. With regard to *self-reactions*, participants of the high risk group are more likely to experience negative emotions in the face of failure whilst the majority of the low risk group applies constructive methods in order to decrease the discrepancy between established goals and their current behaviour.

When taking the whole self-regulation process into account, it can thus be concluded that participants of the high risk group have poor self-regulation in relation to participants in the low risk group. This is due to a combination of inappropriate goal establishment, a tendency to be influenced by controlled regulation, apparently passive self-control processes, poor regulatory fit between actions and goals and negative self-reactions when confronted with failure. The results of this study, therefore, give an indication of young adults' self-regulation processes and their attempt to control subjective behaviour processes in time and across contexts to achieve health related goals. In general, the findings of this study support the findings of other researchers, confirming the importance of self-regulation in health- and health-risk

behaviour. The main implication is that there should be a much stronger emphasis on self-regulatory skills in health promotion and illness prevention programmes.

However, certain limitations of this study should also be taken into account. The study sample consisted only of young adults who are currently tertiary students. Results can, therefore, not readily be extrapolated to young adults in general as different themes might have emerged from young adults with lower educational backgrounds or from rural communities. Future studies may be conducted bearing this in mind. Other aspects that could be addressed by future studies might be to consider the role of individuals' risk perceptions with regard to the goal establishment phases as well as the manner in which individuals deal with stumbling blocks in the action phase. Finally, the way in which self-regulation as a dynamic process should be assessed accurately is still not clear. As this study is one of the first to explore self-regulation from a qualitative perspective, future studies could shed more light on the usefullness of other qualitative and even mixed method-designs.

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Appendix A. Exposition of high risk and low risk behaviour in relation to the compiled frequency categories

HEALTH RISK BEHAVIOUR (N = 92)	Never	Rarely	Occasionally	Regularly
SUBSTANCE ABUSE				
Smoking tobacco.	L*	L	L	H**
Consuming more than two alcoholic drinks per day.	L	L	L	H
Using substances other than alcohol or tobacco.	L	L	H	H
SEXUAL BEHAVIOUR				
Having unprotected sexual intercourse.	L	H	H	H
Having more than one sexual partner.	L	H	H	H
PHYSICAL ACTIVITY				
Insufficient engagement in physical exercise / sport.	L	L	L	H
DIETARY BEHAVIOUR				
Using destructive ways in order to loose weight	L	L	H	H
Not eating balanced meals regularly	L	L	H	H
Eating fast food	L	L	L	H
PERSONAL HYGIENE				
Not ensuring personal hygiene regularly	L	L	H	H
TRAFFIC SAFETY				
Reckless driving	L	L	L	H
ENVIROMENTAL HEARING RISK				
Listening to very loud music	L	L	L	H
SELF-MANAGEMENT OF MEDICATION				
Noncompliance.	L	L	L	H

* L = Low Risk Behaviour

**H = High Risk Behaviour