



Universiteit
Leiden
The Netherlands

Well-being and headache in adolescence : A self-regulation perspective

Massey, E.K.

Citation

Massey, E. K. (2009, April 21). *Well-being and headache in adolescence : A self-regulation perspective*. Retrieved from <https://hdl.handle.net/1887/13750>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/13750>

Note: To cite this publication please use the final published version (if applicable).

Chapter One

General Introduction

Summary

The main aim of this collection of studies was to gain greater insight into the role of self-regulatory processes in adolescent well-being. This was investigated in the general population of adolescents, among both healthy adolescents and those with a health complaint, namely headache. The following questions were addressed. What do adolescents strive to achieve in their daily lives and how do they think about and pursue these aspirations? To what extent do adolescents experience frustration to goal pursuit and how do they go about coping with this? Are goal frustration and goal-related coping important for adolescent well-being and quality of life? Finally, do these relationships differ between adolescents who experience headache and those who do not? The focus of this thesis is on the regulation of daily goal pursuits within a variety of life domains and coping with frustration to successful attainment of these goals. Greater understanding of the dynamic relationships between these factors may offer useful insights for interventions.

Goal pursuit and well-being in adolescence

Self-regulation can be defined as the modulation of thoughts, feelings and emotions in order to guide goal setting, pursuit and evaluation (Karoly, 1993). In this thesis, self-regulation theory is applied to the investigation of psychological well-being and headache in adolescents. Many authors advocate this theoretical framework (e.g. Maes & Karoly, 2005; e.g. Scheier & Carver, 2003) because, as opposed to focusing on incidences of stress and coping in isolation from other activities (Boekaerts, 1999), self-regulation offers a dynamic, integrative approach to human behaviour, cognition and emotion (Carver & Scheier, 1999) suitable for explaining both normal and problematic functioning (Karoly, 1999).

Central to self-regulation theory is the concept of personal goals, which represent desired states to be achieved (or avoided). They thus form the standard against which the current state is evaluated (Carver & Scheier, 1998). A perceived discrepancy between the actual and ideal state is suggested to stimulate goal-directed action. Various terminologies have been employed to describe concepts similar to personal goals including 'personal projects' (Little,

1983), 'personal strivings' (Emmons, 1986), 'possible selves' (Markus & Nurius, 1986), 'life tasks' (Cantor, 1990; Cantor & Kihlstrom, 1987) and 'future-oriented goals' (Nurmi, 1989). What these theories agree upon is the notion that personal goals motivate and direct behaviour, affording structure and meaning to daily life (Carver & Scheier, 1999; McGregor & Little, 1998; Nurmi, 1997).

The goals of adolescents are generally unique to this period. They are distinctive to those of adults (Nurmi, 1991; Ogilvie et al., 2001) as they are shaped by the age-specific developmental tasks which mark the transition from childhood to adulthood (Havighurst, 1975). Typical adolescent aspirations relate to future educational and occupational pathways, current relationships and future family, material assets, and leisure (Nurmi, 1991) as well as autonomy, personal achievements and self (development) (e.g. Carroll et al., 1997; Knox et al., 2000). Contextual factors such as institutional tracks, social expectations and resources are suggested to channel opportunities and constraints for adolescent goal pursuit (Nurmi, 2004). Based on these normative developmental tasks and life circumstances, but also on own prior experiences and motivation, adolescents select a highly individualized set of personal goals and plans for pursuit (Nurmi, 2004).

Self-regulation is particularly relevant during adolescence, a period in which the self-identity develops (Erikson, 1963). With increasing (cognitive) maturity, adolescents gradually become more autonomous in their personal goal pursuits. Youths are suggested to direct their personal development via the iterative process of goal setting, striving, and evaluating (Austin & Vancouver, 1996; Dunkel, 2000; Dunkel & Anthis, 2001; Ford, 1992; Little, 1983) – a process which in turn provides the basis for self-definition or identity (Nurmi, 2001). Consequently, adolescence is a period wherein self-regulatory skills are learnt and honed. These skills are likely to form the template for self-regulation and coping in adulthood (McGrath, 1999).

Goal striving, however, is often not without its challenges, obstacles and frustrations. Internal obstacles may include personal deficiencies with regard to knowledge or skills while external obstacles may include interference or demands of others, illness, events beyond personal control, or an unresponsive or restrictive environment (Carver & Scheier, 1990a, 1990b). Alternatively,

pursuit of one goal may conflict with the pursuit of another (e.g. Emmons, 1986; Emmons & King, 1988). The psychological stress experienced by impediment to goal pursuit is defined here as goal frustration (Boekaerts, 1999; Carver & Scheier, 1999).

According to self-regulation theory, abundant progress and goal attainment generates positive affect while progress which falls short of expectations generate negative affect (Carver & Scheier, 1990b). In line with this reasoning, goal frustration would be expected to be associated with elevated negative affect and more generally with lowered well-being. Evidence with young adults appears supports this notion. When successful goal attainment is thwarted by unforeseen obstacles or barriers, well-being has been shown to be reduced (Emmons, 1986; Emmons & King, 1988; Schroevers et al., 2007; Yetim, 1993). The relationship between goal frustration and well-being in adolescents, however, is yet to be investigated: this thesis aims to begin filling this gap.

Goal-related cognitive coping and well-being

Interruption to successful goal pursuit necessarily requires a coping response (Boekaerts, 1999) to deal with either the obstacle or the negative emotions evoked (or both). If stress is defined as the experience of impediment to achieving desired goals (Carver & Scheier, 1999), coping can be considered to be efforts to re-establish progress towards these desired states (or away from them in the case of avoidance goals) or to disengage from unattainable goals (Carver & Scheier, 1999). Coping is considered to be an adaptive self-regulatory process in response to impediment to successful goal pursuit (Leventhal, Leventhal, & Contrada, 1998). The bodies of literature on self-regulation and coping, however, have largely developed in parallel (Aspinwall, 2004) and as a consequence there has been very little research on specifically coping with goal frustration. Studies on coping have been criticized for failing to consider the nature or characteristics of the stressor (Aspinwall, 2004; Boekaerts, 1999). Furthermore, the stressor is typically assessed in isolation from other life domains without regard for the impact it may have on them (Aspinwall, 2004). At the same time, the goals a person is striving to achieve are likely to influence the appraisal of the stressor and the coping response (Boekaerts, 1999; Maes et

al., 1996). In self-regulation research, inventories of goal cognitions have often included indicators of goal frustration (e.g. stress, inter-goal conflict: Little, 1983). However, there has been little consideration of coping in response to the goal frustration. This thesis therefore adds to the literature an investigation into the relationship between goal-related coping and well-being in adolescence.

When goal frustration is encountered, a number of alternative coping responses may be generated. In some cases due to the importance of the goal, commitment to it may be maintained while due to the frustration experienced, effort may be reduced. This can lead to perseverative negative thoughts, or rumination, about the goal rather than constructive problem solving or goal-directed action (Carver & Scheier, 1999; Martin & Tesser, 1996). There is considerable evidence that rumination is associated with greater negative affect and depressive symptoms in both adolescents (Abela et al., 2002; Broderick & Korteland, 2004; Garnefski et al., 2003; Garnefski et al., 2002a; Papadakis et al., 2006) and adults with chronic pain (de Vlieger et al., 2006). Another possible response to goal frustration, particularly in those who have doubts or do not feel able to overcome an obstacle, may be to catastrophize about the obstructed goal (Carver & Scheier, 1999). Catastrophizing has been linked to increases in distress in adolescents (Garnefski et al., 2003; Garnefski et al., 2001; Kraaij et al., 2003; Leung & Wong, 1998).

Additionally, coping responses such as self and other blame have also been implicated in poor psychological well-being (Frydenberg & Lewis, 2002; Garnefski et al., 2001; Tennen & Affleck, 1990). In contrast to these less functional strategies, others have been suggested to be protective against reduced well-being such as positive reappraisal of the situation, putting the situation into perspective and focusing on other, positive things (Garnefski et al., 2003; Garnefski et al., 2001; Garnefski et al., 2002a). It should be noted, however, that coping strategies cannot be interpreted as universally functional since the relationship with well-being depends on the characteristics of the both the stressor and the person (Eiser, 1990; Schroevers et al., 2007).

Coping responses to goal frustration are likely to depend upon the individual's perception of their ability to cope (Bandura, 1997) and the perceived effectiveness of their coping efforts (Aldwin & Revenson, 1987). High coping-

efficacy is suggested to promote continued goal striving when obstacles are encountered while low coping-efficacy is suggested to be related to lower goal persistence (Maes & Karoly, 2005). Moreover, choice of coping strategies when goal frustration is experienced is likely to depend on coping-efficacy beliefs (Boekaerts, 2002).

Goal pursuit and cognitive coping in adolescent headache

Up to this point, goal frustration and goal-related coping have been discussed in a general sense without consideration of specific circumstances which may cause difficulty or obstacles to successful goal attainment. Illness or pain is one such context. Aspinwall (2004) highlights that chronic illness or pain is likely to have a significant influence on self-regulatory processes such as appraisal of goal difficulties, coping strategies and evaluation of coping effectiveness. There is, however, limited research on self-regulation in the context of a health issue, particularly in paediatric populations (Schwartz & Drotar, 2006).

In order to explore the process of goal pursuit in the context of a health problem in adolescence, headache was chosen. Headache is one of the most commonly reported pain complaints in adolescence (Hunfeld et al., 2001; Perquin et al., 2000). Weekly headache in the Netherlands is reported by approximately 1-in-7 (14%) boys and 1-in-3.5 (28%) girls aged 9 to 17 (Bandell-Hoekstra et al., 2001). With increasing frequency and severity of headache complaints, a significant reduction in psychological well-being and quality of life is observed (for reviews see Bandell-Hoekstra et al., 2000; Powers et al., 2006). Co-morbidity of headache with other pain complaints is also common (Fichtel & Larsson, 2002). Headache is not only prevalent in adolescence, but also commonly persists into (young) adulthood (Bille, 1997; Camarda et al., 2002).

In the present thesis, headache is investigated within the framework of self-regulation theory. Rather than focusing solely on the health problem, this perspective takes an integrated approach to health within the broader context of multiple strivings in various life domains. Few studies have explored goal pursuits in adolescents with a health problem. The limited evidence suggests children and adolescents with a health complaint (such as asthma, diabetes or

spina bifida) do not differ in the importance they assign to their goals although they may perceive a developmental lag (Seiffge-Krenke, 1998). These authors point out that it is uncertain whether these findings are generalizable to adolescents with other illnesses which may involve different demands and restrictions (see also Schwartz & Drotar, 2006).

Only a handful of studies have specifically investigated the experience of pain within a self-regulatory framework and these have been conducted exclusively on adults. When individuals with varying degrees of pain are compared, greater goal conflict is reported in those with persistent pain compared to adults with episodic or no pain (Karoly & Ruchman, 1996). Furthermore, adults with persistent pain have been found to report lower goal-related self-efficacy, positive arousal, self-monitoring, and self-reward alongside higher goal-related self-criticism and negative arousal (Karoly & Lecci, 1997; Karoly & Ruchman, 1996). In a diary study on women with fibromyalgia, lower goal progress and greater pain-related barriers or hindrance to goal attainment are reported on days with greater pain (Affleck et al., 1998; Affleck et al., 2001). Conversely, when goal progress is booked, positive mood is said to increase irrespective of the level of pain or fatigue. Finally, evidence suggests that when goal achievement is perceived to be dependent upon the absence of pain, emotional adjustment is poorer than when goal achievement is not dependent on absence of pain (Morley et al., 2005; Sutherland & Morley, 2008).

There is growing evidence that frustration to goal pursuit in the context of illness or pain is related to lower well-being. A number of studies with adults have investigated impediment to goal pursuit in the context of a chronic illness, such as coronary heart disease, diabetes and AIDS. When an illness hinders or obstructs pursuit of important personal goals, quality of life and general well-being have been found to be reduced (Boersma et al., 2005a; Boersma et al., 2005b; Echteld et al., 2001; Echteld et al., 2003; van der Veek et al., 2007). Similarly, a greater discrepancy between goal importance and attainability (Kuijer & de Ridder, 2003), greater difficulty in pursuing goals (Rapkin et al., 1994) and greater perceived barriers to progress (Affleck et al., 1998) have been related to lower psychological well-being and quality of life in adult patients.

In sum, the available evidence points to impaired goal pursuit in those who suffer chronic pain. Furthermore, in the context of a chronic illness or pain condition, goal frustration appears to be related to lowered well-being. However, the above studies have focused exclusively on self-regulatory processes in adults. To our knowledge there have been no studies which have explored the relationship between goal pursuit, coping and well-being in the context of headache in adolescents.

Furthermore, the extent to which goal frustration and coping are related (prospectively) to headache has also yet to be explored. The evidence for a relationship between coping and pain is mixed (see for example Bandell-Hoekstra et al., 2002; Buenaver et al., 2008; Merlijn et al., 2003), and may depend on the particular strategy under investigation or the type of stressor. Studies in both adolescents and adults have failed to find a link between coping and headache characteristics (de Vlieger et al., 2006; Frare et al., 2002). Others have suggested that only pain-related coping (rumination) is associated with pain complaints while coping with other stressors is not (Eccleston et al., 2001). However, a number of studies in both adults and children have consistently found a link between catastrophizing and greater pain (Crombez et al., 2003; Sullivan et al., 2001; Turner et al., 2004; Vervoort et al., 2006). These studies, however, have generally focused on coping with pain itself. In contrast, the self-regulation perspective taken here is that of coping as a normal process of healthy functioning (Karoly, 1999) which may have an impact upon both psychological and physical health outcomes such as headache.

Research questions & chapter overview

In summary, a review of the literature highlights that there is little known about the influence of goal-cognitions such as goal frustration on well-being and physical health in adolescence. Furthermore, there is scant research into how youths cope with frustration to goal pursuit. The main aim of this thesis was therefore to extend this area of literature by investigating goal-cognitions and goal-related coping in relation to psychological adjustment and physical health, namely headache complaints.

The following research questions were formulated. Firstly, what kinds of goals do adolescents strive to attain, and how do these goals and goal-cognitions differ according to the individual characteristics of the adolescent (Chapter 2 & 3)? Secondly, to what extent is goal frustration related to psychological well-being? (Chapters 3, 4 & 5, see Figure 1). Thirdly, to what extent are goal-related coping strategies important for well-being? (Chapter 4 & 5, see Figure 2). Fourthly, to what extent do adolescents with varying headache frequency differ with regard to goal frustration, coping and well-being? (Chapter 4, see Figure 3). Fifthly, to what extent do the relationships between a) goal frustration and well-being and b) goal-related coping and well-being differ according to headache frequency? (Chapter 4 & 5, see Figure 4). Finally, to what extent are goal frustration and coping related prospectively a) to well-being (Chapter 5) and b) to headache? (Chapter 6, see Figure 5).

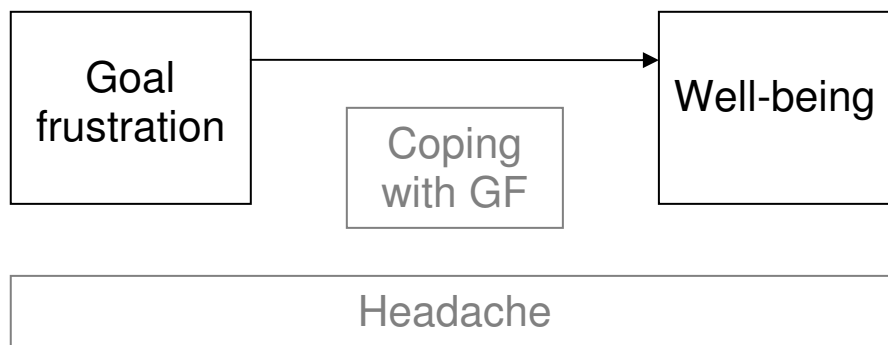


Figure 1. Relationship between goal frustration and well-being.

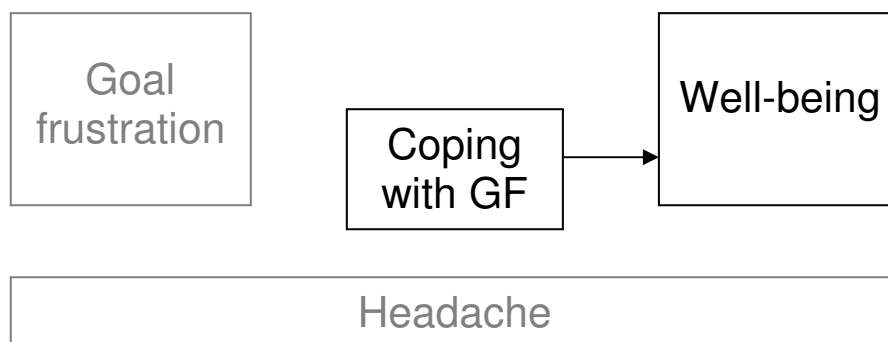


Figure 2. Relationship between coping in response to goal frustration and well-being.

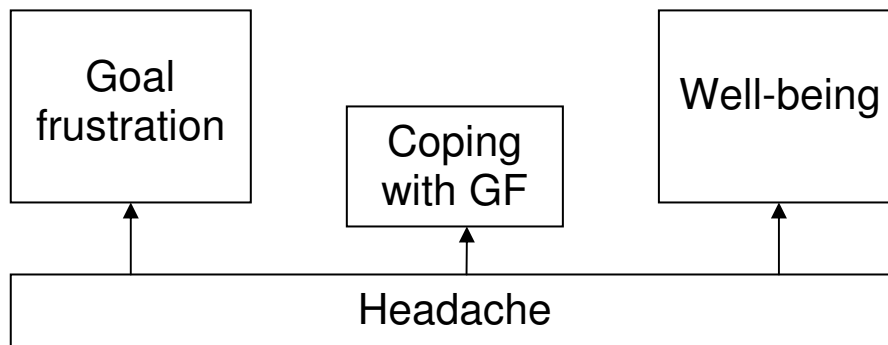


Figure 3. Difference in goal frustration, coping and well-being according to headache frequency.

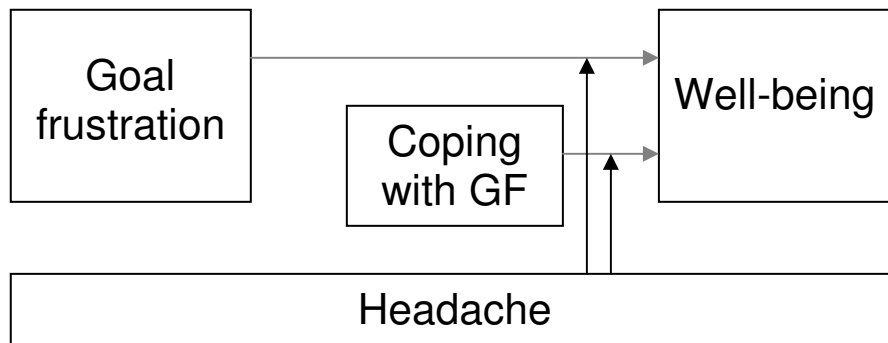


Figure 4. Moderating effect of headache on the relationships between goal frustration and well-being and coping and well-being.

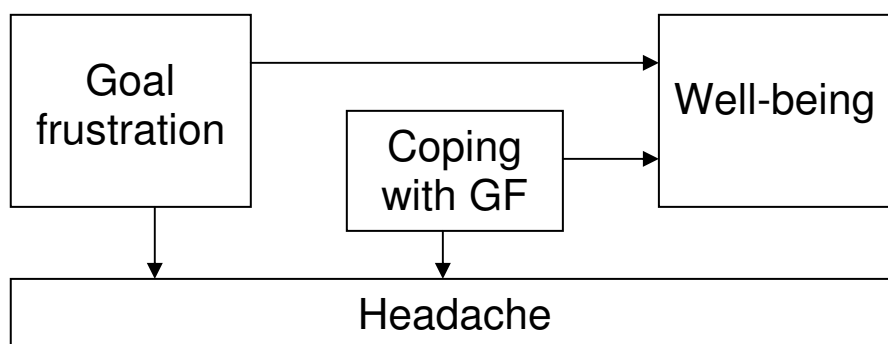


Figure 5. Influence of goal frustration and coping on well-being and headache.

In order to provide answers to these questions, a literature review and a number of empirical studies were conducted which are described in the following chapters.

In *Chapter Two* a review of the literature on the sociodemographic correlates of adolescent goals and the association between goals and behaviour and well-being is presented. The aim of this review was to update the state of the art in the growing area of adolescent goal research and to assess possible future directions. Following this review, a series of studies was conducted to further investigate the relationships between adolescent goal pursuit, goal-related coping and psychological and physical well-being. In *Chapter Three*, a pilot study into the self-generated goals of adolescents is described. There were two main aims of this study. Firstly, to explore how self-articulated goals are related to the individual characteristics of the adolescent and secondly, to investigate how goal cognitions such as goal frustration, perceived difficulty, and goal-related self-efficacy are related to well-being. These aims were investigated by means of a cross-sectional survey completed in schools by over four-hundred Dutch high-school students. In *Chapter Four*, a large cross-sectional study of over twelve hundred high-school students is described. Adolescents with varying degrees of headache complaints were compared on goal frustration, goal-related coping and well-being variables. This comparison was followed by an investigation into how goal processes and goal-related coping are related to well-being in adolescents with either no, monthly or weekly headache. Extending this line of research in *Chapter Five* and *Six*, the dynamic interplay between self-regulation, health and well-being in the daily lives of adolescents was investigated. Almost one hundred adolescents completed a brief electronic diary in their own homes at the end of the day for three weeks. In *Chapter Five*, the concurrent and prospective contribution of headache, daily frustration and goal-related coping to daily positive and negative affect was investigated. In *Chapter Six*, the concurrent and prospective contribution of daily frustration and cognitive coping to headache occurrence was investigated. Finally, in *Chapter Seven*, theoretical as well as practical implications of the amalgamated findings are discussed and avenues for future research are suggested.

