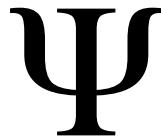




DET PSYKOLOGISKE FAKULTET



***The Relationship between Self-Regulation in Schoolwork and
Physical Activity, and Life-Satisfaction in Adolescents***

HOVEDOPPGAVE

profesjonsstudiet i psykologi

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Abstract

According to the self-determination theory postulated by Deci and Ryan (1985), fulfillment of the basic needs for autonomy, competence and relatedness is essential for optimal human functioning and life-satisfaction, and critical in the area of goal pursuit and attainment. Self-regulation is the ability to regulate behavior towards specific goals, and is considered one of the important developmental skills students should learn through their adolescent years. It can be placed on a continuum from externally controlled to autonomous and internally regulated behavior, where the latter corresponds more positively with life-satisfaction than the first. This study explores the relationship between self-regulation in the two domains schoolwork and physical activity, and life-satisfaction in adolescents. Data was employed from 10th grade students ($N = 1534$, age; $M = 15.5$) from the Norwegian sample of the cross-national survey Health Behavior in School-aged Children (HBSC). Descriptive, correlation and regression analyses were conducted. In general, the adolescents reported moderate to high levels of self-regulation in both domains, as well as above-average levels of life-satisfaction. Self-regulation in physical activity correlated higher with life-satisfaction than self-regulation in schoolwork, though all correlations in the study were low to moderate. Self-regulation in both domains accounted for eight percent of the variance of life-satisfaction in the regression analysis. Implications for further research and practice are discussed.

Keywords: Self-regulation, autonomy, schoolwork, physical activity, life-satisfaction, adolescents, self-determination theory

Sammendrag

I følge selvbestemmelses teorien til Deci og Ryan (1985) er tilfredsstillelsen av de grunnleggende behovene for autonomi, kompetanse og tilhørighet avgjørende for optimal menneskelig fungering og livstilfredshet, og essensielle i streben etter og oppnåelsen av mål. Selvregulering er evnen til å styre atferd mot spesifikke mål, og sees på som en viktig utviklingsmessig ferdighet elever bør lære i sin ungdomstid. Selvregulering kan plasseres på ett kontinuum som går fra ytre kontrollert til autonom og indre regulert atferd, hvor det siste anses å korrelere mer positivt med livstilfredshet enn det første. Denne studien ser på forholdet mellom selvregulering i de to domene skolearbeid og fysisk aktivitet, og livstilfredshet hos ungdom. Materialet er hentet fra datasettet fra 10.klassinger ($N = 1534$, alder; $M = 15.5$) som deltok i den internasjonale spørreundersøkelsen Helsevaner blant skoleelever (HBSC). Deskriptive, korrelasjons- og regresjonsanalyser ble gjennomført. Ungdommene i denne studien hadde moderate til høye skårer på målet for selvregulering, og over middels skårer på livstilfredshet. Selvregulering i fysisk aktivitet korrelerte høyere med livstilfredshet enn selvregulering i skolearbeid, men oppsummert var alle korrelasjonene i studiet lave til moderate. Sammen forklarte selvregulering i de to domene åtte prosent av variansen i livstilfredshet i regresjonsanalysen. Implikasjoner for videre forskning og praksis blir drøftet avslutningsvis.

Nøkkelord: Selvregulering, autonomi, skolearbeid, fysisk aktivitet, livstilfredshet, ungdom, selvbestemmelses teori

The Relationship between Self-Regulation in Schoolwork and Physical Activity, and Life-Satisfaction in Adolescents

Introduction

Background

One important aspect of becoming an adult is the ability to engage in and perform actions that are not necessarily highly engaging (Ryan & Deci, 2000a). We have to go to work on days when we don't feel like it, and sometimes we have to initiate actions that are not pleasurable - just to get things done. One important skill to learn through our adolescent years is self-regulation; the ability to evoke motivation for performing behavior (Deci & Ryan, 1985; Ryan & Deci, 2000a), whether there is internal or external reward for doing something.

Self-regulation and goal-directed behavior are closely linked to the need for autonomy, and are important developmental outcomes, as they seem closely related to adolescents' well-being (Deci & Ryan, 2000). Disturbances of autonomy, on the other hand, have been linked to various types of destructive behavior, like alcohol abuse (Hull & Slone, 2004), eating disorders (Herman & Polivy, 2004), compulsive buying (Faber & Vohs, 2004), and apathy due to indecisiveness (Ryan & Deci, 2006).

Purpose

This paper examines the relationship between self-regulation in two different settings, self-regulation in schoolwork and self-regulation in physical activity, and life satisfaction among 15-year olds. It discusses various ways of enhancing life-quality for adolescents, on the assumption that fostering autonomy and self-regulation can help prevent mental illness and increase life-satisfaction.

Definitions

Self-regulation. According to the organismic integration theory, which is the foundation for defining self-regulation in the context of self-determination theory, self-regulation is one of the many innate, positive developmental skills humans can develop, and essential for positive growth is the fulfillment of the basic needs for competence, autonomy and relatedness. Self-regulation describes the ability to regulate behavior towards specific goals (Deci & Ryan, 1985).

Schoolwork. Schoolwork is defined as work related to school, like homework, projects, group work and other schoolwork, based on the definition used in the survey Health Behavior in School-aged Children (HBSC, 2009).

Physical activity. According to Caspersen, Powell and Christenson (1985, as cited in Biddle & Mutrie, 2008) physical activity consist of movement of the body produced by skeletal muscles, which leads to energy expenditure and has a positive correlation with physical fitness.

In this paper, physical activity will be defined as activities that at times make the pulse go up, or makes a person out of breath. This is based on the definition of physical activity used in the survey Health Behavior in School-aged Children (HBSC, 2009). The conceptualization used in this study seeks to explore leisure- time physical activity, and is not set to include organized physical activity. However, as the definition is broad, it does not allow for a full exclusion of physical activity in organized, leisure- time settings.

Life-satisfaction. The definition of life-satisfaction assessed in this paper is a subjective evaluation of the fulfillment of certain important needs and goals (Huebner, Suldo, Smith, & McKnight, 2004). It is defined as one component of the multifaceted

construct subjective well-being (SWB), along with positive and negative affect. While positive and negative affects refer to the emotional dimensions of SWB, life-satisfaction is thought to reflect the more cognitive aspect of this domain (Diener, Suh, Lucas, & Smith, 1999).

Theoretical Framework

The theoretical framework used in this study is the self-determination theory presented by Deci and Ryan (1985), with particular focus on their concept of need for autonomy, and how, when fulfilled, it fosters self-regulation. The conceptualization seen in Figure 1 illustrates the relationship between self-regulation in schoolwork and physical activity, and how this relates to life-satisfaction.

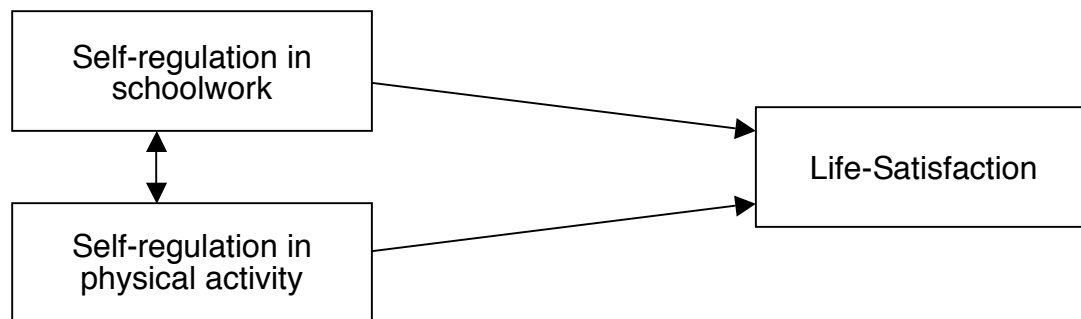


Figure 1. An illustration of how self-regulation in schoolwork and physical activity influence each other, and life-satisfaction.

Self-determination theory, autonomy and self-regulation. Self-determination theory integrates the need for competence, relatedness and autonomy as a basis for "facilitating optimal functioning of the natural propensities for growth and integration, as well as for constructive social development and personal well-being" (Ryan & Deci, 2000a, p.68), and it explores different social arenas for where this development can happen.

Self-regulation as described in self-determination theory is governed by three types of causality orientations, impersonal, external and internal, which are representative for various forms of motivation. Self-regulation is placed along a continuum from controlled (nonself-determined) to autonomous (self-determined) behavior. Fully externally controlled behavior is represented by amotivation. It has an impersonal locus of causality, and describes a lack of intention and motivation to performing a behavior. Externally regulated behavior, where one's behavior is governed by outer demands and contingencies, regulated by others, is driven by an external locus of causality and extrinsic motivation. Introjected regulation represents a motivating source outside the person, but where the person regulates the contingencies for a behavior himself. The locus of causality is somewhat external, as there is a partial internalization of outer regulations, but no identification with them. Identified regulation is where there is external motivation, but they are accepted and identified with by the person. It has a somewhat internal locus of causality, as the person engages in the behavior to fulfill some outer requirement, but sees a personal benefit in doing so. The final regulatory style governed by external motivation is integrated regulation, which corresponds with an internal locus of causality. At this point, one's behavior is driven by external values and demands, but these are integrated with the self and create a sense of continuity between feelings, thoughts and behavior. At the far end of the continuum is the fully self-determined regulation, intrinsic regulation. This is when a person engages in a behavior for the sole enjoyment of the actual behavior. It is integral to intrinsic motivation, and driven by an internal locus of causality (Deci & Ryan, 2000).

An integrated regulation is seen as true self-determined regulation (Deci & Ryan, 1985). The conditions for developing true self-determined regulation are considered optimal when “individuals experience supports for competence, autonomy, and relatedness” (Ryan & Deci, 2000a, p. 74). However, concerning fully integrated regulation in adolescents, which is the main focus of this study, the topic is debated as researchers claim that this ability is “too complex and “mature” for the developing adolescent” (Caldwell, Baldwin, Walls, & Smith, 2004, p.315).

It is important to study autonomy and self-regulation to possibly prevent the development of psychopathology (Deci & Ryan, 2000), and researchers claim that disturbances of autonomy is central to various forms of psychopathology (Ryan, Kuhl, & Deci, 1997). According to some humanistic psychologists, distress is caused when overemphasizing the value of extrinsic goals, like financial success and appearance, rather than focusing on fulfilling basic, intrinsic needs, like autonomy and social belonging (Maslow, 1954; Rogers, 1961). This has been supported through various research (Kasser & Ryan, 1996; Ryan & Deci, 2000a). Especially for adolescents, who are in the vulnerable phase of exploring their identities, establishing growth-oriented goals is important for well-being (Deci & Ryan, 2000).

It has also been shown that satisfaction of the need for autonomy is correlated with improved well being (Ryan & Deci, 2000a) and enhanced subjective vitality (Nix, Ryan, Manly, & Deci, 1999). Controlling contexts seem to have a negative effect on well-being (Deci & Ryan, 2000; Ryan & Deci, 2006), whereas supportive contexts that promote autonomy seem to have a positive effect on well-being (Danielsen, Wiium, Wilhelmsen, & Wold, 2010; Ryan & Deci, 2000a, 2006), and quality of life (Schallock

1996, as cited in Wehmeyer, 1997). Related terms like self-efficacy and agency have also been seen to have a positive effect on life-satisfaction among adolescents (e.g. Huebner, Suldo, & Valois, 2005; Proctor, Linley, & Maltby, 2009; Welzel & Inglehart, 2010).

A satisfied need for autonomy also seems to be an important base for motivation. Researchers in the area point towards different types of motivation (e.g. Deci, Ryan, & Williams, 2002; Ryan & Deci, 2000a), where intrinsic motivation and internalization of extrinsic motivation seem to have the most positive effects on human functioning, especially amongst adolescents (Deci & Ryan, 2000). They also describe how satisfying the basic psychological needs described in self-determination theory can facilitate these types of motivation, and specify how feeling autonomous is critical for the development of internal self-regulation (Ryan & Deci, 2000a).

As self-determination theory has documented several beneficial effects of the satisfied need for autonomy (Ryan & Deci, 2006), it seems appropriate to make this the focus of the present study. This does not presuppose that it is possible to clearly distinguish between the different basic needs. Self-determination theory states that especially the needs for competence and autonomy are intrinsically related (Deci & Ryan, 1985). However, to allow clearer hypotheses testing, only the need for autonomy will be the focus of this study.

Self-regulation in schoolwork. As schooling is compulsory, it might not be an optimal arena for studying self-regulation and autonomy (Danielsen et al., 2010). It has been shown that intrinsic motivation is low among adolescents in school, and decreases with age (Larson, 2000; Ryan & Deci, 2000b). Girls tend to be more motivated for school than boys (Martin, 2003).

However, research has shown that school-settings can be adjusted to promoting feelings of autonomy through for example teaching styles (for an overview, see Deci & Ryan, 2000). Bassi, Steca, Delle Fave and Caprara (2007) reported that students with a high sense of self-efficacy in learning reported more enjoyment and optimal experiences when doing schoolwork, which can be seen in relation to that experiences of autonomy and intrinsic motivation lead to creativity and high-quality learning (Deci & Ryan, 1985; Ryan & Deci, 2000b).

Several researchers have found that perceived support from teachers is important for adolescents' well-being in school, especially in relation to feelings of autonomy, competence and relatedness (e.g. Danielsen et al., 2010; Ryan & Deci, 2000a). This is thought to be associated with adolescents' opportunity to explore their autonomy in an encouraging and motivational setting, which in turn strengthens their development of self-regulatory skills (Deci et al., 2002; Reeve, 2002), as well as "permit students to have a perceived internal locus of causality with regard to their learning" (Standage, Gillison, & Treasure, 2007, p.73). Autonomy-supportive strategies of motivation have been shown to increase self-determined engagement in uninteresting activities (Reeve, Jang, Hardre, & Omura, 2002). As school consists of a range of subjects that cannot be interesting for all students at all times, this is an important strategy for teachers to apply to foster engagement even if a subject is boring. It may also be important for teachers to have an autonomy-supportive approach, as this has been found not only to increase motivation in students, but also in the teachers themselves, which again influences feelings of autonomy in students (Roth, Assor, Kanat-Maymon, & Kaplan, 2007).

It is important to strive for a learning climate where students can learn to develop their autonomy, as this has been seen to correspond with their abilities of self motivation, goal setting and academic achievements and aspirations (Bassi et al., 2007; Jang, Reeve, Ryan, & Kim, 2009; Van Ryzin, Gravely, & Roseth, 2009). Along with other life-skill components (for review, see Coley & Dwivedi, 2004), self-regulation has been thought to be an important educational goal (Danielsen et al., 2010).

Studies reviewed by Deci and Ryan (2000) have shown that if one is presented with external motivation for something originally internally motivated, internal motivation decreases. They found that participants experienced less control and coping. In relation to schoolwork and self-regulation, this could be studied further. If a student is internally motivated for a subject, because he or she finds it interesting, but at the same time is externally motivated for getting high grades in this subject, then according to Deci and Ryan, motivation for performance will overrule the initial interest in the subject. This might lead to a decrease in the students experienced self-regulation.

In sum, promoting feelings of autonomy in school strengthens self-regulation, which has been seen to have several positive outcomes for adolescents.

Self-regulation in physical activity. Self-determination theory has been acclaimed to hold a particular relevance when applied to the field of goal-setting and motivation in physical activity (Hagger & Chatzisarantis, 2007a; Ryan & Deci, 2007). The relevance of self-regulation when engaging adolescents in physical activity has also been stated, as “the long-term goal of health promoters is to permit young people to regulate their own physical activity behavior so that omnipresent health messages are not required to maintain that behavior” (Hagger & Chatzisarantis, 2007b, p.54).

The relationship between physical activity and life-satisfaction has long been subject of interest amongst several researchers (e.g. Biddle & Mutrie, 2008; Cratty, 1968; Martens, 1975; Thrane, 1999), and it is proposed that health problems associated with low levels of physical activity seem to have their origin in the decline of this activity in adolescent years (Hagger & Chatzisarantis, 2007b; Standage et al., 2007). However, these findings are unclear. A review of the literature examining amongst other how childhood activity patterns are related to health and well-being, report that the overall pattern show weak to modest relationships (see Biddle, Gorely, & Stensel, 2004).

Overall findings seem to support the view that physical activity has positive outcomes (Biddle & Mutrie, 2008; Fox, 1999; Pate, Heath, Dowda, & Trost, 1996; Proctor et al., 2009), even if some of the findings are unclear (Biddle et al., 2004). Regular physical activity has been associated with a healthy lifestyle (Piko & Keresztes, 2006; Steptoe et al., 1997), which has been seen to have a positive effect on life-satisfaction (Proctor et al., 2009). Associations have been found between sedentary behavior and inactivity, and negative health and well-being outcomes (Hardy, Dobbins, Denney-Wilson, Okely, & Booth, 2009; Piko & Keresztes, 2006). It has also been shown that more active students have less extrinsic and materialistic goals which, as discussed in the introduction of this paper, is linked with more positive life-outcomes (Proctor et al., 2009). Boys are found to be more physically active than girls (see Biddle et al., 2004), and seem to be more motivated to engage in this behavior (Biddle & Mutrie, 2008; Duncan, Hall, Wilson, & Jenny, 2010).

Hagger, Chatzisarantis and Biddle (2002) have found that giving students a choice of engaging in physical activity or not provided a stronger feeling of autonomy, and thus,

students were more willing to engage in this behavior. It has also been found that motivation seems to be an important factor for adolescents who engage in physical activity (see Biddle et al., 2004). Especially the combination of intrinsic and internalized extrinsic motivation has been linked with positive outcomes (Chatzisarantis, Biddle, & Meek, 1997; Ryan & Deci, 2007). Identified and integrated self-regulation has been shown to be particularly motivational for physical exercise in adolescents (Duncan et al., 2010).

In sum, it is important to study what mechanism prompt physical activity in adolescents, as this has several positive effects on well-being. Self-regulation is an important skill to study when focusing on how to increase motivation amongst adolescents to engage in physical activity (e.g. Deci & Ryan, 2000; Edmunds, Ntoumanis, & Duda, 2007; Markland & Ingledew, 2007).

Self-regulation in schoolwork and physical activity. Most of the research regarding self-regulation in schoolwork and physical activity has looked at the two domains separately. An analysis performed by Pate et al. (1996) found a correlation between no involvement in physical activity and perception of low academic performance, suggesting the importance of being physically active on academic motivation. However, this study does not include direct descriptions of self-regulation or perceived autonomy, so only with caution can these findings be applied to the present study.

There is abundant literature describing autonomy support and self-regulation in physical education (e.g. Cox, Smith, & Williams, 2008; Hagger, Chatzisarantis, Culverhouse, & Biddle, 2003; Hassandra, Goudas, & Chroni, 2003; Standage et al.,

2007), and this could be a way of combining the two domains. Perceived teacher and peer support greatly strengthens positive experiences of performing and engaging in physical education amongst adolescents (Cox & Ullrich-French, 2010; Hassandra et al., 2003). It has also been found that autonomy support enhances autonomous motivation in physical education settings, which in turn has been found to influence autonomous motivation in physical activity in leisure-time settings (Hagger et al., 2003). Biddle et al. (2004) describe how school is an area for promoting adolescents' physical activity, as it has great potential for reaching a majority of this age-group.

As self-regulation is described as a skill regulated by the perceived need satisfaction in a respective setting (Deci & Ryan, 1985), it is plausible to think that regulation will be modeled by the individuals experience of motivation for whatever subject or activity he or she engages in. However, one could imagine that experiencing autonomy, competence and relatedness in one domain could enhance the perceived need satisfaction in another domain, through moderating mechanisms like for example self-esteem (e.g. Biddle & Mutrie, 2008; Deci & Ryan, 1995), or like in the study by Hagger et al. (2003) described in the previous section. One of the positive outcomes usually reported by physically active individuals, is an elevated state of energy (e.g. Nix et al., 1999), as well as lower occurrence of for example depression and anxiety (e.g. Biddle & Mutrie, 2008). It could be hypothesized that these positive effects of physical activity influence mood and functioning in a way that enhances school-satisfaction and achievement.

Hassandra et al. (2003) specifies several individual differences when it comes to intrinsic motivation for being physically active, such as perceived competence and

autonomy, and goal orientation. This could suggest that there are individual differences in motivation, not just contextual ones.

To summarize, the literature on the relationship between self-regulation in schoolwork and self-regulation in physical activity is scarce. On the basis of the above presented literature, this study will include analyses of the possible relationship between the two domains of self-regulation.

Self-regulation in schoolwork and physical activity, and life-satisfaction.

Students with high levels of life-satisfaction have been found to have high scores on various measures of school-related scales, like academic achievement, school-satisfaction and attitude towards education (Proctor, Linley, & Maltby, 2010). And, as described before, physical activity seems to be linked positively with life-satisfaction (e.g. Pate et al., 1996; Piko & Keresztes, 2006), so it is expected to find a positive relationship between the two domains of self-regulation and life-satisfaction in this study.

As positive outcomes of physical activity are associated with autonomous forms of motivation (Biddle et al., 2004; e.g. Deci & Ryan, 1985; Ryan & Deci, 2007), and these types of motivation positively correspond with life-satisfaction (e.g. Deci & Ryan, 2000; Proctor et al., 2009; Ryan & Deci, 2000a), it seems plausible to assume that high levels of self-regulation in physical activity will correspond with high levels of life-satisfaction.

School-settings on the other hand, tend to be more externally governed (e.g. Danielsen et al., 2010; Deci & Ryan, 1985). Therefore it is expected to find higher correspondence between self-regulation in physical activity and life-satisfaction, than between self-regulation in schoolwork and life-satisfaction.

Socioeconomic status and life-satisfaction. Research addressing socioeconomic status as an influence on adolescents' life-satisfaction have shown mixed results (Gilman & Huebner, 2003), and suggest that the relationship is weak (Proctor et al., 2009). Some of this uncertainty might be explained by measurement difficulties (e.g. Currie, Elton, Todd, & Platt, 1997; Currie et al., 2008). The exception is for individuals growing up in extreme poverty, where there seems to be a stronger predictive relationship between socioeconomic status and life-satisfaction (Huebner et al., 2004).

However, as the findings are unclear, the statistical analyses in this study will control for socioeconomic status in the relationship between self-regulation and life-satisfaction.

Research Hypotheses

On the basis of the previously presented literature and findings, these are the research-hypotheses that will be addressed in the following sections:

1. Levels of self-regulation will be higher in physical activity than in schoolwork.
2. Levels of self-regulation in physical activity will be positively correlated with levels of self-regulation in schoolwork.
3. Students who report high levels of self-regulation in physical activity will report higher levels of life-satisfaction than students who report high levels of self-regulation in schoolwork.
4. Students who report a high level of self-regulation will report a higher level of life-satisfaction than students who do not report high levels of self-regulation.

Method

Data

The data are from the Norwegian sample of the cross-national survey Health Behavior in School-aged Children (HBSC, 2009), a collaboration between the World Health Organization (WHO) and the Centre for Research on Health Promotion (HEMIL) in Bergen. The data consists of translated questionnaires from the standard used in the international study. The study was aimed at capturing various health-indicators amongst adolescents, like nutritional habits, smoking and alcohol use, bullying, school satisfaction and perceived stress, physical activity, and subjective well-being. The present study focuses on the subjects' experiences in the areas schoolwork and physical activity, and their life satisfaction.

The HBSC-study was approved by the Regional Committee for Research Ethics in Norway, and by the Privacy Protection Officer at the University of Bergen.

Participation was based on passive consent from the parents, meaning they had the opportunity to decline participation on behalf of their children. The students were informed of the purpose of the study, and it was stressed that participation was voluntary.

Participants

Participants were selected through a geographically stratified list of all 10th grade classes in Norwegian lower secondary school.

It includes 1809 students, of which the estimated response rate was 85% ($N = 1534$), considered high for this type of study. Their mean age was 15.5 years ($SD = 0.3$), and gender distribution was 53.1% boys ($n = 815$) and 46.9% girls ($n = 719$).

Procedure

In October 2005, the schools were addressed requesting participation, and in November/December the survey was conducted. Data was gathered at the schools, where teachers handed out and collected the questionnaires following a procedure to ensure as similar and optimal conditions as possible, as well as the anonymity of the participants.

Students completed the questionnaires within a school session, and handed in the forms in sealed envelopes. The forms were transported directly to the HEMIL-center in Bergen where they were read, transformed into SPSS-files, controlled and stored.

Instruments

Demographic measures. The demographic measures used in this study are gender and socioeconomic status (SES).

Measures of self-regulation. A modified version of the Youth Experience Survey (YES 2.0, Hansen & Larson, 2002) was used to measure students' levels of self-regulation in physical activity and schoolwork. YES 2.0 is a scale developed to measure different developmental experiences adolescents encounter in various domains, such as identity development and various relational issues. In the original survey, Hansen and Larson included 12 items measuring initiative through four sub-scales: goal setting, effort, problem solving and time management. When considering the adapted scale selected for the HBSC-survey, the specific items used seem to be a good measure for self-regulation, as the two concepts of initiative and autonomy are closely related (Larson, 2000). According to Danielsen et al. (2010) "Intrinsic motivation, which is central to initiative, may be regarded as an expression of autonomous regulation in development" (p. 248).

Reliability and Validity. Previous studies testing reliability in the YES 2.0 initiative scale have reported a Cronbach's alpha of .94 (Hansen & Larson, 2002), indicating high internal consistency (Aron, Aron, & Coups, 2006). The questions used have been translated from the original YES 2.0 scale, and revised to a language understandable for Norwegian adolescents through focus-group interviews with 14 and 15 year- olds, and thorough pilot-testing.

Self-regulation in schoolwork. The items measuring self-regulation in schoolwork were presented with a short introduction; "*During this school year: How often have you had the following experiences when doing schoolwork?*", and measured with the following items (see Appendix 1 for original text):

- a. *I put all my energy into doing schoolwork (like homework, projects, group work and other schoolwork).*
- b. *I push myself when I do schoolwork.*
- c. *I focus my attention when I am doing schoolwork.*
- d. *I set goals for myself when I do schoolwork.*
- e. *I learn to find ways to achieve my goals when I do schoolwork.*
- f. *I organize my time so I can do schoolwork.*

The response alternatives were given on a 4-point Likert- scale ranging from (coding in parenthesis): "*Never*"(1) to "*Very often*"(4). Total scores were created by adding all responses for each student and dividing the sum by number of items. A response rate of 4 out of 6 items was required to be included in the analysis. Of the total score, higher scores indicated higher experience of self-regulation.

Reliability and Validity. Cronbach's alpha for the scale measuring self-regulation in schoolwork was .87, considered very good for psychological research (Aron et al., 2006).

Self-regulation in Physical Activity. Physical activity was defined in the questionnaire as "activities that at times make your pulse go up, or make you out of breath" (HBSC, 2009, p.165, own translation). There was a short introduction, "*During this school year: How often have you had the following experiences whilst taking part in physical activity?*" before presenting the items measuring self-regulation in a physical activity setting. They were the following (see Appendix 1 for original text):

- a. *I put all my energy into the physical activity I do in my leisure time.*
- b. *I push myself when I do physical activity in my leisure time.*
- c. *I focus my attention when I do physical activity in my leisure time.*
- d. *It is my own decision to do physical activity in my leisure time.*
- e. *I learn to find ways to achieve my goals when I participate in physical activity.*
- f. *I organize my time so I can do physical activity in my leisure time.*

The response alternatives were the same as for self-regulation in schoolwork, ranging from (coding in parenthesis): "*Never*"(1) to "*Very often*"(4). Total scores were created by adding all responses for each student and dividing the sum by number of items. A response rate of 4 out of 6 items was required to be included in the analysis. Of the total score, higher scores indicated higher experience of self-regulation.

Reliability and Validity. Cronbach's alpha for the scale measuring self-regulation in physical activity was .85, considered good for psychological research (Aron et al., 2006).

Measure of Life-Satisfaction. A version of the Student Life Satisfaction Scale (SLSS, Huebner, 1991) was translated and used to measure global life-satisfaction. It consists of the following nine items, presented after a short introduction; "*Mark for each statement the alternative that best describes how often you have felt this way in the last weeks*" (see Appendix 1 for original text):

- a. *I like the way things are going for me.*
- b. *My life is going well.*
- c. *My life is just right.*
- d. *I would like to change many things in my life.*
- e. *I wish I had a different kind of life.*
- f. *I have a good life.*
- g. *I feel good about what's happening to me.*
- h. *I have what I want in life.*
- i. *My life is better than for most of my age.*

The items *d.* and *e.* have a negative wording, and were reversely coded before conducting the analysis. The response alternatives were given on a 4-point Likert- scale ranging from (coding in parenthesis): "*Never*"(1) to "*Very often*"(4).

Total scores were created by adding all responses for each student and dividing the sum by number of items. A response rate of 7 out of 9 items was required to be included in the analysis. High scores on SLSS indicate high life-satisfaction.

Reliability and Validity. SSLS is a well-established measurement of adolescents' overall life-satisfaction (Gilman & Huebner, 2003). Reviews have reported an internal consistency of .82 and test/re- test reliability of .74 (Seligson, Huebner, & Valois, 2003). The items were translated, and pilot-tested on Norwegian adolescents. In the current study, Cronbach's alpha of the items was .91.

Measure of Socioeconomic Status. To control for effects of socioeconomic status (SES), responses on the Family Affluence Scale II (FAS II) was included in the analysis. FAS II consists of the following four items (response alternatives in brackets, coding in square brackets. See Appendix 1 for original text):

- a. *Does your family own a car, van, or truck? (No [0], yes, one [1], yes, two or more [3])*
- b. *Do you have your own bedroom for yourself? (No [0], yes [1])*
- c. *During the past 12 months how many times did you travel away on holiday with your family? (Not at all [0], once [1], twice [2], more than twice [3])*
- d. *How many computers do your family own? (None [0], one [1], two [2], more than two [3]).*

Total FAS II -score was calculated by adding responses on all four items for each student and dividing the sum by number of items. Total scores range from zero,

indicating low perceived SES, to nine, indicating high perceived SES. A response rate of 3 out of 4 items was required to be included in the analysis.

Reliability and Validity. FAS II is a measurement scale for adolescents' view of their families' socioeconomic status. It has been found to give a good representation of the family's actual socioeconomic status, as scores on FAS II predicted fathers occupation (Currie et al., 1997; Currie et al., 2008).

FAS has also been found to be a good measure for socioeconomic status when studying adolescent health behavior, as was the aim for the HBSC-study (Boyce, Torsheim, Currie, & Zambon, 2006). FAS II limits the number of missing responses, as the questions seem to reflect accessible information adolescents have about their family's socioeconomic status. Cronbach's alpha scores have been found to vary across countries, from .20 to .60 (Schnohr et al., 2008). The alpha score for this particular study was .33.

Overall generalizability, validity and reliability. One of the advantages with this study is the large number of respondents, as well as its stratified sampling methods. It provides high power, gives a good indication of the variance of the student population in Norway, and indicates that the results can be generalized to students in the Norwegian lower secondary school. However, there are a few limitations with samples of this size. One of them is the possible over-occurrence of statistically significant results, so results should be interpreted with caution. The sampling method of this study might also cause some unexplained variances as it is based on class-stratified samples, not individually stratified samples. When measuring for example life-satisfaction, levels might differ between classes, which can influence the individual responses. This should be kept in mind when interpreting the results.

The scales used in this study are well documented both in the domains of reliability and validity. Overall the alpha values for the scales were high and corresponding with other tests of reliability of the same measures, except for the measures of socioeconomic status, where the alpha scores were moderate. This was considered adequate, as it was not a key variable in the study.

As for the validity of our measures, the SLSS and the FAS II both have been documented to measure in an adequate way what they are supposed to measure. As for the YES 2.0 scale, it has been thoroughly tested for measuring adolescents' positive and negative experiences in an organized setting, including measures of initiative (Hansen & Larson, 2005). As the initiative-scale was used as a measure of self-regulation in this study, this is important to keep in mind when interpreting the results. However, as mentioned before, initiative and self-regulation are closely linked concepts, hence it seems appropriate to apply it like this (Larson, 2000). It should also be kept in mind that the scale was evolved to measure experiences in an organized setting, whereas in this study the wordings used were aimed at measuring schoolwork at an organized level, yet physical activity at a more general level. Therefore, these findings might not be comparable, and caution is recommended when examining the results.

Data Analysis

SPSS version 16.0 was used for all the analyses in this study. Items with negative wording were recoded, and Cronbach's alpha was measured for the items used in the various scales. Descriptive statistics were calculated.

Correlational analyses were performed to measure the relationship between the variables self-regulation in schoolwork, self-regulation in physical activity, and life-

satisfaction. A multiple linear regression analysis was used to examine the possible influences of the two types of self-regulation on each other, and on life-satisfaction. In the regression analysis, socioeconomic status was controlled for as a possible mediating factor in the relationship between the two types of self-regulation and life-satisfaction.

Missing data. Missing responses were acceptably low: 5.2% for self-regulation in schoolwork, 3.4% for self-regulation in physical activity, 0.9% for life-satisfaction and 0.1% for socioeconomic status.

Results

Descriptive Statistics

Table 1 shows descriptive statistics and alpha scores for each scale, for all participants and gender specific.

The descriptive data show a tendency that the adolescents in this survey reported a relatively high life-satisfaction, boys reporting higher life-satisfaction than girls [$t(1, 1457) = 7.60, p < .01$]. The same tendency was seen for self-regulation in physical activity, even though scores were not as high as for life-satisfaction. Self-regulation in schoolwork had the lowest mean, and girls reported slightly more self-regulation in schoolwork than boys [$t(1, 1452) = -3.29, p < .01$], whereas boys reported slightly more self-regulation in physical activity than girls [$t(1, 1480) = 4.21, p < .01$].

Table 1

Descriptive Statistics and Cronbach's Alpha (α) for the Variables Self-Regulation in Schoolwork (SR SCHOOL), Self-Regulation in Physical Activity (SR PA) and Life-Satisfaction (LS)

	All				Boys			Girls		
	Mean	SD	N	α	Mean	SD	n	Mean	SD	n
SR SCHOOL	2.48	0.70	1454	.87	2.42	0.70	766	2.54	0.69	688
SR PA	2.79	0.72	1482	.85	2.87	0.72	784	2.71	0.71	698
LS	2.97	0.64	1520	.91	3.08	0.61	805	2.84	0.66	715

Note. Responses were made on a 4-point Likert scale, where 4 was the highest score. SD; Standard deviation

Correlations

The correlation between self-regulation in schoolwork and life-satisfaction for the complete sample was low ($r = .14, p < .01$). The correlation between self-regulation in physical activity and life-satisfaction was moderate ($r = .28, p < .01$), as was the correlation between the two domains of self-regulation ($r = .26, p < .01$).

Table 2 presents the correlations between the two types of self-regulation and life-satisfaction, specified for gender. Girls were found to have a slightly higher correlation between self-regulation in schoolwork and self-regulation in physical activity than boys. The correlation between self-regulation in schoolwork and life-satisfaction was low for both groups. The correlation between life-satisfaction and self-regulation in physical activity was the same for both groups.

Table 2

Correlations (r) between Self-Regulation in Schoolwork (SR SCHOOL), Self-Regulation in Physical Activity (SR PA) and Life-Satisfaction (LS), by Gender

	1		2		3	
	<i>r</i>	<i>n</i>	<i>r</i>	<i>n</i>	<i>r</i>	<i>n</i>
1 SR SCHOOL			.24**	751	.18**	760
2 SR PA	.31**	677			.26**	780
3 LS	.14**	685	.26**	695		

Note. Values for girls are presented in bold.

** $p < 0.01$ level (2-tailed)

Regression Analysis

Table 3 shows the findings from the regression analysis. Self-regulation in physical activity was a stronger predictor of life-satisfaction than self-regulation in schoolwork. Self-regulation in schoolwork seems to be more strongly associated with life-satisfaction among boys than among girls.

The total variance of life-satisfaction explained by self-regulation is 8 percent, of which only 2 percent for the girls and 4 percent for the boys was explained by self-regulation in schoolwork. When adding SES as a predictor the explained variance increases to 10 percent. The explanatory power of self-regulation in the two domains on life-satisfaction did not change when adding SES, suggesting that SES does not affect these relationships.

Table 3

Regression Analysis for Variables Predicting Life-Satisfaction

	All (N=1420)			Boys (n=746)			Girls (n=673)		
	β	R^2	ΔR^2	β	R^2	ΔR^2	β	R^2	ΔR^2
1									
SR SCHOOL	0.15***	0.02***	0.02***	0.19***	0.04***	0.04***	0.14***	0.02***	0.02***
2									
SR SCHOOL	0.08**			0.14***			0.06		
SR PA	0.25***	0.08***	0.06***	0.22***	0.09***	0.05***	0.24***	0.07***	0.05***
3									
SR SCHOOL	0.07**			0.13***			0.05		
SR PA	0.24***			0.22***			0.22***		
SES	0.12***	0.10***	0.02***	0.08*	0.09***	0.01*	0.15***	0.09***	0.02***

Note. Dependent variable: Life-satisfaction.

SR; Self-regulation, PA; Physical activity, SES; Socio-economic status

* $p < .05$, ** $p < .01$, *** $p < .001$

Discussion

In this study, the relationship between self-regulation in schoolwork, self-regulation in physical activity, and life-satisfaction has been explored.

The adolescents reported above-average scores on self-regulation, with higher scores on self-regulation in physical activity than in schoolwork. This corresponds with other findings suggesting that while leisure time physical activity is usually intrinsically motivated (Biddle & Mutrie, 2008; Ryan & Deci, 2007), school is compulsory and often more externally motivated (Danielsen et al., 2010; Larson, 2000), and hence might inhibit experiences of autonomy more than in physical activity. This lends support to the proposed research hypotheses that self-regulation will be higher in physical activity than in schoolwork.

Boys reported higher self-regulation in physical activity than girls, which could be explained by findings showing that boys in general are more motivated to participate in physical activity (e.g. Biddle & Mutrie, 2008; Duncan et al., 2010). Girls, on the other

hand, reported higher self-regulation in schoolwork than boys, which is in line with research showing that girls tend to place a higher belief in the value of school than boys (see Martin, 2003).

School is assumed to be an arena where external motivation often overrules intrinsic motivation (Danielsen et al., 2010; Deci & Ryan, 2000), yet the reported levels of self-regulation in schoolwork in this study were moderate to high. An explanation for this might be that teachers in Norway have an autonomy-supportive teaching style, which has been shown to increase students feelings of autonomy (e.g. Roth et al., 2007) and school-satisfaction (Deci & Ryan, 2000). It could also be that other needs are appropriately satisfied in the Norwegian schools, like the need for relatedness and competence, and that this enables self-regulation.

It was shown that the adolescents in general reported high life-satisfaction, which corresponds with other research in the area of life-satisfaction in children and adolescents (see Gilman & Huebner, 2003).

A modest trend was found showing that students who reported high levels of self-regulation in physical activity reported high levels of self-regulation in schoolwork. This association was stronger for girls than for boys. As mentioned in the introduction, there is a lack in literature describing a relationship between self-regulation in these two specific domains, but overall self-determination theory states that self-regulation is prompted when environments facilitate need- satisfaction (Deci & Ryan, 1985; Deci et al., 2002), which could explain why the correlation between these two settings was not higher.

However, it is important to note that the two modes of self-regulation might not be comparable, as physical activity was measured specifically as an individual activity,

while the measure of schoolwork might have been interpreted as including a more organized setting.

Bauman, Sallis, Dzewaltowski and Owen (2002) discuss the potential difficulties in determining causalities in relationships, especially when including measures of physical activity, as one cannot exclude multiple nor reciprocal causal pathways. The correlational nature of this study precludes making causality judgments about the results, and further research is suggested to investigate how self-regulation is triggered in the separate domains of schoolwork and physical activity, and how they affect each other.

Contrary to initial expectations, the relationship between self-regulation and life-satisfaction was low to moderate. There was a stronger correlation between self-regulation in physical activity and life-satisfaction than in schoolwork and life-satisfaction. This could be explained by findings indicating that physical activity is more intrinsically regulated, through enjoyment and fun (Ryan & Deci, 2007), whereas schoolwork is more extrinsically regulated, through demands from parents and teachers, grades and possible educational goals (e.g. Danielsen et al., 2010; Deci & Ryan, 1985). Intrinsic motivation is usually more positively correlated with life-satisfaction than extrinsic motivation (e.g. Deci & Ryan, 2000; Proctor et al., 2009; Ryan & Deci, 2000a).

It could also be explained by the measures used for studying self-regulation. These were adapted scales from the initiative- measurements developed by Hansen and Larson (2002), and might not capture the essence of self-regulation. Further research should develop measures that clearly distinguishes between the various self-regulatory styles (see Ryan & Deci, 2000a), and it is important to bear in mind that the optimal

motivational style of self-regulation for adolescents might not be integrated, but rather identified and introjected regulation (Caldwell et al., 2004).

Self-regulation seems to explain around eight percent of the variance of life-satisfaction, and might be an important contributor to understanding adolescent well-being. The regression analysis showed that when self-regulation in physical activity was added to self-regulation in schoolwork, the prediction of self-regulation in schoolwork on life-satisfaction for girls decreased. One way of interpreting these findings is that leisure-time physical activity is more important for understanding life-satisfaction in girls than schoolwork. This finding may also indicate that self-regulation in schoolwork is influenced by self-regulation in physical activity. One possible explanation for this is that self-regulation in schoolwork is affected by other factors, like self-esteem, psychological adjustment and overall well-being, which separately are influenced by physical activity (Biddle & Mutrie, 2008).

But as life-satisfaction and well-being are complex constructs (e.g. Gilman & Huebner, 2003; Huebner et al., 2004), other factors are important to consider when studying it. An extensive review by Proctor et al. (2009) sums up research done on adolescent life-satisfaction, and mention amongst other environmental quality, social belonging, personality factors, health and non-participation in risk-taking behavior as important contributors to youth life-satisfaction. The latter three could be seen in relation to self-regulation, as self-determination theory states that self-regulation is linked to personality (e.g. Deci & Ryan, 1985; Ryan et al., 1997), and that self-regulation is an important influence for certain behavior that contributes to good health, like participation in physical activity (e.g. Chatzisarantis, Hagger, Biddle, & Karageorghis, 2002), or ill

health, as regulation-disturbances has been linked with various forms of risk-taking behavior, like substance-abuse (Hull & Slone, 2004; Sayette, 2004) and risky sexual behavior (Quinn & Fromme, 2010). However, these hypotheses need further validation.

There are a number of limitations to this study. First, the statistical significance should be interpreted with caution because of the large number of participants. It is also emphasized that the correlational nature of this study precludes the determination of causality between the variables in question. Second, the data was obtained from surveys, and so our understanding of the underlying mechanisms of the domains is limited. Third, the measures for self-regulation should be evaluated, as they initially were meant to measure initiative, a slightly different construct. Even though these concepts are thought to be interrelated (e.g. Danielsen et al., 2010), and the scale was an adapted version of the original initiative-scale (Hansen & Larson, 2002), the present measures need further testing. One way to test this is to investigate how need-satisfaction is enabled in the various domains.

A fourth limitation is that the definitions applied in this study might be too broad, especially considering the definition of schoolwork. It has not been taken into account that various subjects might evoke self-regulation in different ways, when adjusting for for example subjective interest or the feeling of meaning in learning a particular subject (Yeager & Bundick, 2009). As for measuring self-regulation in physical activity this could have been biased by the definition of physical activity provided to the participants which might be too wide, and open for subjective interpretations.

Conclusion

This study has shown that 15-year olds in Norway seem to have a relatively high life-satisfaction, as well as self-regulation in schoolwork and physical activity. There seems to be a moderate relationship between self-regulation in these two domains and life-satisfaction. Further research exploring the mechanisms of self-regulation is requested.

Implications for Research and Practice

Future research is encouraged to investigate how one can promote adolescents' self-regulatory abilities to internalize the healthy demands and values laid upon them by their environments. This research could focus on how schools can be organized to prompt the development of this skill, through providing support for the needs for competence, autonomy and relatedness (Ryan & Deci, 2000a). Deci and Ryan (2000) suggest that this can be done through autonomy-supportive teaching, which has been found to motivate students to integrate external regulations.

Adolescents have also been shown to respond well to educational programs aimed at increasing integrated and identified regulation for participating in positive leisure-time activities (see Caldwell et al., 2004), which suggests that inspiring adolescents to participate in leisure-time physical activity is within reach, if done in a well-structured manner.

Staying active is an important source for preventing poor health (for review, see Biddle & Mutrie, 2008), and as health has been found to be a possible moderator in the relationship between physical activity and well-being (Thrane, 1999), increasing a persons' motivation for physical activity is therefore considered important (Deci & Ryan,

2000). The present study has shown a tendency towards self-regulation in physical activity as having a positive effect on life-satisfaction. For an extensive review on how to promote physical activity, see Biddle and Mutrie (2008).

Noteworthy to study are other underlying mechanisms influencing life-satisfaction. It could for example be of interest to look at self-esteem, which has been linked to both life-satisfaction (Harter, 1999; Proctor et al., 2009) and autonomy (Deci & Ryan, 1995). It could also be interesting to study how self-regulation can help adolescents to sort out and specify intrinsic, growth-oriented life-goals as self-regulation is a useful skill concerning goal-setting and goal-pursuit (e.g. Deci & Ryan, 2000).

On a society-level, it could be of interest to explore the relationship between self-regulation and productivity, as this is seen as one of the core-values of modern society (Ryan & Deci, 2000a). Self-regulation as postulated by self-determination theory is closely linked with a persons ability to motivate him-or-herself from within, and as stated by Ryan and Deci (2000a) "Motivation produces." (p.69). Furthermore, it could be interesting to evaluate the link between self-regulation and intrinsic motivation, as the experience of intrinsic motivation has been found to be associated with life-satisfaction and well-being (Deci & Ryan, 2000).

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Appendix

Original Items from the Norwegian Sample of the Cross-National Survey Health

Behavior in School-aged Children (HBSC)

Items from the Adapted Version of the Youth Experience Survey (YES 2.0)

Measure of self-regulation in schoolwork.

79. I løpet av dette skoleåret: Hvor ofte har du hatt følgende opplevelser når du holder på med skolearbeid.

Sett kryss:

	Svært ofte	Ganske ofte	Av og til	Ikke i det hele tatt
a) Jeg legger ned all min energi når jeg holder på med skolearbeid (som for eksempel lekser, prosjektarbeid, gruppearbeid og annet skolearbeid)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Jeg setter meg selv på prøve når jeg holder på med skolearbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Jeg arbeider konsentrert når jeg driver med skolearbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Jeg setter meg mål når jeg holder på med skolearbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Jeg finner ut hvordan jeg kan nå mine mål i skolearbeidet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Jeg planlegger hvordan jeg skal gjøre skolearbeid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Measure of self-regulation in physical activity.

58. I løpet av dette skoleåret: Hvor ofte har du hatt følgende opplevelser når du holder på med fysisk aktivitet? Sett kryss:

	Svært ofte	Ganske ofte	Av og til	Ikke i det hele tatt
a) Jeg legger ned all min energi når jeg driver med fysisk aktivitet i fritiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Jeg setter meg selv på prøve gjennom fysisk aktivitet i fritiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Jeg er konsentrert, når jeg driver med fysisk aktivitet i fritiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Jeg bestemmer selv om jeg skal drive med fysisk aktivitet i fritiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Jeg finner ut hvordan jeg kan oppnå det jeg ønsker når jeg holder på med fysisk aktivitet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Jeg planlegger hverdagen min for å kunne holde på med fysisk aktivitet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Measure of Life-Satisfaction**Items from the Student Life Satisfaction Scale (SLSS).**

16. Sett ett kryss for hver påstand i den boksen som best beskriver hvor ofte du har følt deg slik i løpet av de siste ukene.

	Aldri	Av og til	Ofte	Nesten alltid
a) Jeg er fornøyd med hvordan jeg har det for tiden.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Livet mitt går bra.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Livet mitt er akkurat slik det skal være.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Jeg kunne tenke meg å forandre mange ting i livet mitt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Jeg skulle ønske livet var annerledes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Jeg har et godt liv.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Jeg trives med hva som skjer i livet mitt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h) Jeg har det jeg ønsker meg i livet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i) Jeg har det bedre enn de fleste andre på min alder.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Measure of Socio-Economic Status**Items from the Family Affluence Scale (FAS II).**

7. Har din familie bil?

- nei
- ja, en
- ja, to eller flere



8. Har du eget soverom?

- ja
- nei

9. Hvor mange ganger har du reist et sted på ferie med familien din i løpet av det siste året?

- ingen
- en gang
- to ganger
- mer enn to ganger

10. Hvor mange PC-er har familien din?

- ingen
- en
- to
- mer enn to