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Examining Reciprocal Relations Between Self-Concept and Social Exclusion in Early Adolescence – a Within-Person Approach

Graduate thesis in Profesjonsstudiet i psykologi

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Abstract

The development of a positive and stable self-concept is viewed as important for good mental health and is considered a process highly dependent on social interactions and context, including social exclusion. However, there is a dearth of longitudinal studies investigating the development of the general self-concept – including its stability – among adolescents, especially with regards to reciprocal relations with social exclusion, and on a within-person level. In the present study we aimed to examine the reciprocal relations between self-concept and social exclusion in a community sample of 719 Norwegian adolescents followed up biennially from ages 10 to 14. Self-concept was reported by the adolescents' self-reports, and social exclusion was reported by teachers. By applying a Random Intercept Cross-lagged Panel Model, we found that increased teacher-reported social exclusion at age 12 predicted a more negative self-concept at age 14. A second finding was a modest stability in the self-concept from ages 12 to 14. There were no other significant paths, thus the analyses did not yield indications of a reciprocal relation between social exclusion and self-concept. These results emphasize the transition to adolescence as vulnerable for the individual's self-concept, and in which the need to belong with peers become increasingly important.

Sammendrag

Utviklingen av et positivt og stabilt selvkonsept anses å være viktig for god psykisk helse, og er en prosess som er avhengig av sosiale interaksjoner og kontekst, som inkluderer sosial eksklusjon. Likevel er det kun et mindretall av studier som har undersøkt utviklingen av selvbildet – stabiliteten inkludert – blant ungdom, og spesielt med tanke på de gjensidige effektene med sosial eksklusjon, på et innen-person-nivå. I den aktuelle studien har vi vurdert de gjensidige assosiasjonene mellom selvbilde og sosial eksklusjon i en populasjon med 719 norske ungdommer fulgt opp annethvert år fra alderen 10 til 14 år. Selvbildet ble rapportert av ungdommene, mens sosial eksklusjon ble rapportert av lærere. Ved å anvende en «Random Intercept Cross-Lagged Panel Modell», fant vi at lærer-rapportert sosial eksklusjon ved 12 år predikerte et mer negativt selvbilde ved 14 års alder. I tillegg indikerte resultatene en beskjeden stabilitet i variabelen selvbilde. Det var ingen andre signifikante effekter, analysene støttet ikke hypotesen om gjensidig sammenheng mellom sosial eksklusjon og selvbildet. Resultatene belyser overgangen til ungdomstiden som sårbar for individets selvbilde, og hvordan behovet for tilhørighet med jevnaldrende blir stadig viktigere.

Forord

Jeg ønsker å takke alle deltakerne i studien Tidlig Trygg i Trondheim, som har gjort det mulig for meg å undersøke og fordype meg i temaer som har interessert meg gjennom hele studietiden. Det å skrive en hovedoppgave i koronatiden har vært utfordrende, da jeg har vært nødt til å jobbe mer på egenhånd enn jeg vanligvis har gjort. Jeg er derfor veldig takknemlig for mine veiledere, Kristine Rensvik Viddal og Vera Skalická, som har vært svært tilgjengelige for meg i denne perioden. Takk for uvurderlig faglig, metodisk og statistisk hjelp. De faglige diskusjonene vi har hatt har vært spennende og hjelpsomme, og har gjort prosessen med å skrive denne hovedoppgaven veldig lærerikt. Jeg ønsker også å takke Frode Stenseng for gode, faglige innspill i løpet av denne prosessen.

Examining Reciprocal Relations of Self-Concept and Social Exclusion in Early Adolescence – a Within-Person Approach

The development of the self-concept is a fundamentally important process in human development highly influenced by individual's social context (Gorrese & Ruggieri, 2013). This view is supported by one of the definitions of the self-concept as: "a theory a person holds about himself as an experiencing, functioning being in interaction with the world" (Gecas, 1982, p. 3). A negative self-concept is associated with maladaptive outcomes such as depression (Steiger et al., 2014), anxiety (Ybrandt, 2008), eating disorders (Sánchez Guarnido et al., 2012) and aggression (Ybrandt, 2008), which illustrate the importance of research on the self-concept. If the self-concept is an idiosyncratic theory deriving on the person's interaction with the world, then negative social interactions should affect an individual's self-concept in a negative way (Gorrese & Ruggieri, 2013). Evidently, one of the most obvious negative interactions an individual can experience is *social exclusion*, defined as being kept physically or emotionally apart from other people (Wesselmann et al., 2016, p.5), which is argued to thwart human's fundamental need for social belongingness (Baumeister & Leary, 1995). Excluded and victimized youth often withstand further exclusion, and thereby experience multiple episodes of social exclusion (Telzer et al., 2019). If there is a reciprocal association between self-concept and social exclusion, this relation may explain why some individuals are trapped in a vicious cycle of more social exclusion. We hypothesize that individuals with a more negative self-concept, not due to social exclusion, may have challenges in social interactions, which in turn, make him or her more vulnerable to social exclusion.

However, in spite of the understanding that the self-concept is dependent on the social environment (Gorrese & Ruggieri, 2013), there is a dearth of longitudinal studies in this field, especially with regards to the transition from childhood to adolescence, and adolescence in general (Harter, 2012). Adolescence is a particularly important time in the development of the self-concept, hence, research on this age-group is needed to gain a better understanding of the self-concept (Beyers & Çok, 2008).

Beyond the lack of the adolescent perspective of self-concept development in a social context, there is also a lack of studies considering the within-person effects. The present study therefore applies a statistical model known as the "Random Intercept-Crossed Lagged Panel Model (RI-CLPM)" (Hamaker et al., 2015). The RI-CLPM makes it possible to investigate changes from children's own mean levels (of for example self-concept) as a function of changes in children's own levels of for instance social exclusion (see e.g., Steinsbekk,

Wichstrøm, Stenseng, Nesi, Hygen, & Skalicka, 2021), so called within-person effects. The model was developed to overcome the methodological concern of not controlling for between-person effects which can confound the results (Hamaker et al., 2015). Examples of such effects include individual differences related to personality, genetics, and parenting-styles. Research that evaluates the within-person effects, and not only the between-person effects, accounts for time-invariant, trait-like stability in addition to temporal stability (Hamaker et al., 2015). Thus, by applying analytical methods investigating the within-person effects brings us one step closer to establish if the possible associations found between social exclusion and self-concept are true, and not contaminated by common, underlying factors (see e.g., Hygen et al., 2020).

Self-Concept

The Multifaceted Nature of the Self-Concept

Research on the different aspects of the self, like the self-concept, has been a part of psychology for many decades (Wichstrøm, 2006). The process of understanding and defining the self-concept has been a constant challenge throughout time, hence the literature concerning the self is characterized by a confusing terminology (Butler & Gasson, 2005). Indeed, terms like the self, self-image, self-esteem, identity, and self-concept are frequently used interchangeably and synonymously in studies (Butler & Gasson, 2005). Already in the 70s, Shavelson et al. (1976) criticized this tendency and claimed that the researchers had developed their own ways of measuring self-concept, making the results hard to generalize, compare and interpret. Shavelson et al. (1976) assessed the different definitions and instruments for measurements when developing both a general definition of self-concept and a model to explain the multifaceted and hierarchical nature of the self-concept. The authors noted that the self-concept is the person's perception of themselves, formed by his or her environment, and that the self-concept is important in explaining and predicting how a person will act. His or her actions will additionally contribute in forming the self-concept (Shavelson et al., 1976).

Shavelson et al. (1976, p. 413) presented a hierarchical model on a dimension of generality, based on the assumption that the self-concept is multifaceted. At the apex of the model is the general self-concept, before it differentiates into academic-, social-, emotional- and physical self-concept. These groups are further divided into facets, such as the social self-concept separating into peers vs. significant others. The focus of the present study is the general self-concept, which is hypothesized to be the most stable. According to Shavelson et al. (1976) it requires many situational-specific experiences that are inconsistent with the

general self-concept to change the over-arching, stable self-concept. After sufficient experiences that do not match the general self-concept, individuals will gradually start changing the general perception of themselves (Shavelson et al., 1976). Here, we argue that experiences with social exclusion- over time- negatively influences and changes the general self-concept.

Further on, and relatedly, the self-concept is a developmental construct, and children's self-concept becomes more differentiated as they mature and grow (Shavelson et al., 1976). The ability to evaluate the self becomes increasingly nuanced, where older children turn from a simple assessment to evaluate themselves along a continuum (Shapka & Keating, 2005), adolescents differentiate into even more domains than earlier (Harter, 1999). This is due to a range of factors, particularly the increasing number of experiences the child incorporates in their understanding of themselves, and the cognitive development making it possible to form stable, realistic evaluations concerning the self (Harter, 1999).

The work of Shavelson et al. (1976) has had profound influence on later research, and has functioned as a template for developing instruments measuring the multidimensional self-concept (Marsh & Craven, 2006). One such instrument is the Self-Description Questionnaire (SDQ; Marsh, 1986), developed with the goal to reflect and test the multidimensional model presented by Shavelson and colleagues. Another is the Self-Perception Profile for Adolescents (SPPA-R; Harter, 1988), also a multidimensional scale to assess the self-concept (Wichstrøm, 2006). Both the SDQ and the SPPA-R are used in the present study, which makes the theoretic framework of Shavelson, Marsh and Harter relevant.

The General Self-Concept

A theoretical problem occurs when assessing the *general* self-concept, which is the focus of the study herein. Marsh and Craven (2006) stated that the term self-esteem can be used synonymously with general self-concept, because it suggests self-evaluations that are not specific to any of the particular self-concept domains. This explains the confusion with the terms self-concept and self-esteem, and point to why these terms have been used interchangeably (Butler & Gasson, 2005). Following terminology used by Shavelson, Marsh and Harter, we have chosen the term general self-concept, and not self-esteem. However, we include relevant research that utilizes the term self-esteem in their explanation of a general understanding of the self.

In the discussion of whether to investigate either the general or specific self-concept(s) there are arguments on both sides. Marsh and Craven (2006) conducted research indicating that even though it is important to assess the general self-concept, it may be easier to find

associations and describe the possible variations between different parts of the general self-concept when examining the specific facets. Despite this, the current study assesses the general self-concept, mainly because of the arguments of Rosenberg et al. (1995). They described how the global self-esteem is important in assessing and predicting psychological wellbeing, consisting of aspects like self-respect and self-acceptance. This corresponds with the self-enhancement theory (Baumeister, 1982; Greenwald, 1980; Jones, 1973; Kaplan, 1975; Swann, 1987), which discusses self-esteem as a basic human need, providing a motive to protect and enhance our feelings of self-worth. If this need is not fulfilled, feelings of frustration and stress will occur, influencing our psychological wellbeing (Rosenberg et al., 1995). The present study applies this latter perspective due to the focus on social exclusion, which, arguably may be a major threat to the individual's self-worth.

The General Self-Concept in a Social Context

Developmentalists (e.g., Bronfenbrenner, 1979; Erikson, 1968; Harter, 1983) commonly place the development of the self in a social context. Shavelson et al. (1976) noted how humans base their perceptions of themselves on experiences, and that people recode these experiences into categories which becomes a part of the self-concept. Younger children are believed to form self-perceptions through observing, interpreting and internalizing reactions to their behavior from the people around them by role taking processes (Cooley, 1902; Mead, 1934). According to the bioecological systems theory (Bronfenbrenner, 1979), human behavior is a result of a person's interaction with the environment surrounding him or her. Bronfenbrenner (1979) argued that the child develops within several environmental subsystems, and that there is a bidirectional nature of the person-environment interactions. Thus, not only do the environment (e.g. parents, teachers, friends) affect the child, but the child also elicits reactions from the environment, and thereby affects their surroundings. Such an understanding also originates from the classic transactional model (Sameroff & Chandler, 1975). Central in this model is the understanding that the interaction between the individual and his or her context influences any process occurring in the individual (Sameroff & Mackenzie, 2003), and hence development of the self-concept.

To the best of my knowledge, very few studies have investigated the reciprocal associations between the development of the general self-concept and social exclusion in adolescence. However, a few studies have investigated reciprocal associations between social exclusion and self-esteem (e.g., Kinnunen et al., 2008; Stinson et al., 2008), but this mainly in adult populations. A longitudinal study found that levels of adult's self-esteem predicted the quality of their social support (Kinnunen et al., 2008). Furthermore, a study investigating the

relation between parenting and adolescents' peer-relationships identified the self-concept as a mediating factor (Dekovic & Meeus, 1997). As such, the self-concept formed in the social context of family is suggested to be associated with the quality of the social bonds with peers (Dekovic & Meeus, 1997), which makes the results relevant to the current study. However, the aforementioned studies assessed older populations, thus the possible effects of the transition from childhood to adolescence remains unclear. One study, based on the identical dataset as the current study, found reciprocal effects between peer-rejection and self-regulation (Stenseng et al., 2014b), but the study was limited to ages 4-6 years. Nevertheless, the Stenseng et al. (2014b) study indicates that there are indeed reciprocal relations between social exclusion and aspects of the self.

Few, if any, study has investigated the associations between social exclusion and self-concept at a within-person level, controlling for time-invariant factors. Thus, the current study aims to contribute to extend the field of self-research in adolescence.

The Self-Concept in the Transition from Childhood to Adolescence

The transition from childhood to adolescence is defined by great changes and advancement in the individual's cognitive and social abilities and realities (Spano, 2004), and hence a particularly interesting period to investigate the self-concept. Indeed, the self-concept is viewed as both a cognitive and a social construct, and research concerning the aspects and development of the self-concept in adolescence is warranted (Harter, 2012). One of the most important developmental tasks for adolescents is autonomy, and the success of this task is associated with a better transition from adolescence to adulthood (Fleming, 2005). This process of increased stability and independence is reflected in the psychosocial theory of Erikson (1968), describing how individuals from approximately 12 years of age face a time characterized by identity confusion with lower levels of self-esteem. According to Erikson, the main task for adolescents is to develop values and roles for their adult life, in other words, he emphasized the development of a stable identity (Hamman & Hendricks, 2005). Corresponding with the proposition in the current study, Erikson proposed that the development of identity is a result of person-context interactions (Beyers & Çok, 2008); the social environment surrounding the individual is important in completing the developmental task and gaining a stable and positive self-concept (Beyers & Çok, 2008).

The profound developmental changes following puberty is characteristic for adolescence, making this particular period interesting when evaluating the development of the self-concept (Beyers & Çok, 2008). As the participants of the current study are between age 10 and 14, the effects of puberty may be important to include when evaluating the results.

Relations Between Self-Concept and Social Exclusion

Puberty is both a universal process and a time characterized by substantial individual differences concerning, for instance, timing of onset and the particular pace which the individual moves through puberty (Mendle et al., 2019). Despite the individual differences, it may be helpful to assess the mean onset of puberty, which is 11 years old for girls, and 12 years for boys (Blakemore et al., 2010). Due to puberty individuals acquire increasingly complex cognitive abilities that affect their understanding and perception of themselves, including decision-making (Luciana et al., 2005), working memory (Anderson et al., 2001) and inhibitory control (Leon-Carrion et al., 2004).

Harter (2012) claimed that the cognitive determinants, which develop greatly during puberty, account for the normative developmental features of the self. Furthermore, the social factors lead to the individual differences in how the self is developed (Harter, 2012). Researchers stress that the biological and cognitive processes taking place in adolescence should be studied in combination with the simultaneously ongoing processes in the social environment (e.g., Choudhury et al., 2006; Sebastian et al., 2008). A phenomenon characterizing adolescence is the formation of smaller friend-groups, or so-called cliques (Pattiselanno et al., 2015) The individual turns more to their peers and away from their parents than before (Gorrese & Ruggieri, 2013), and friendships become more supportive, intimate and communicative (Steinberg & Morris, 2001).

When investigating the self-concept development in adolescence, it is important to have in mind that adolescents are more sensitive to both acceptance and rejection from others, while simultaneously becoming more self-conscious (Sebastian et al., 2008). Youths are more concerned with others' opinions, and at the same time often acting egocentric, which may be understood through phenomenon of "imaginary audience" (Elkind & Bowen, 1979). Adolescents have a tendency of thinking that they are performing as an actor in front of an audience, and social evaluative situations activate the stress-systems in the adolescent's body and induces self-consciousness, even in situations lacking feedback (Somerville, 2013). Blakemore (2012) claims that the cognitive development of a more social brain explains these tendencies of exaggerating other's evaluations of them. Thus, adolescents for instance have a higher behavioral, neural and autonomic arousal in presence of peers compared to both adults and children (Telzer et al., 2019). As such, social exclusion could be extra harmful in adolescence.

To be able to evaluate the development of the self-concept during adolescence, we must appreciate the developmental features of this period. On the one hand, autonomy increases during adolescence, particularly regarding their growing independence from their

parents (Benito-Gomez et al., 2020). On the other hand, the emerging adolescent becomes more dependent on their social environment, and greatly base their understanding of themselves on other's, often peers, opinions of them (Pfeifer et al., 2009). Consequently, they strive for independence and autonomy in order to develop the self-concept, while simultaneously being highly dependent on other people to succeed in the process. A result of this dilemma is the necessity of developing supporting friendships and belonging to a social group (Pfeifer et al., 2009), discussed in the following section.

Social Exclusion

The Need to Belong-Theory

We as humans, and our behavior, is greatly motivated by a fundamental need for attachments to significant others (Baumeister & Leary, 1995). This is illustrated by the need to belong theory (Baumeister & Leary, 1995), shedding light on the importance of social relationships for our well-being. Additionally, the need to belong can be used as a foundation to understand how social exclusion may be associated with the general self-concept. To satisfy the belongingness need the social interactions must be frequent and pleasant, and they must take place in a relatively stable context as well as the perception that the bond will continue in the future (Baumeister & Leary, 1995). The need to belong is satisfied when the individual believes that the other person likes him or her, or cares about their wellbeing, and this feeling should ideally be mutual (Baumeister & Leary, 1995).

Baumeister and Leary (1995) claimed that the need to belong is innately prepared, due to evolution. After all, being part of a group and forming strong social bonds were likely beneficial for protection as well as for reproduction. An example of research supporting the importance of the need for social belongingness is the classic "Robbers Cave" study (Sherif et al., 1961). This experimental study demonstrated how group identification and loyalty developed quickly in groups consisting of previously unacquainted boys. However, previous research regarding the need to belong has focused on the adult population, often with an experimental approach where social exclusion is systematically manipulated (Stenseng et al., 2014b). By using the natural occurring social exclusion among peers, as reported by their teachers, the current study of adolescents represents an alternative way of assessing the predictions of the need to belong theory, by investigating the relations between self-concept and social exclusion.

An increase in belongingness will presumably foster positive emotion, and the decrease of it will evoke negative affect (Baumeister & Leary, 1995). This hypothesis is confirmed multiple times in research; happiness in life and subjective well-being is strongly

correlated with having close social relationships (Baumeister, 1991). Furthermore, we typically become anxious in a situation of losing close relationships, feel lonely in the absence of significant people and often feel depressed when a close relationship dissolves (Leary, 1990). As a matter of fact, there are likely very few situations where social exclusion will not bother the individual at all (Wesselmann et al., 2016). The need for forming social bonds turns out to be particularly true for adolescents (Telzer et al., 2019), making the need to belong theory especially relevant to the current study. Concerning the reciprocity between social exclusion and self-concept, some evidence points to the possible relation between having a more negative self-concept and being more vulnerable to exclusion. One study indicated that children and adolescents with a more negative self-image and with a feelings of inferiority were more vulnerable to be victimized (Houbre et al., 2010).

Arguably, when experiencing social exclusion the individual's need to belong will be threatened (Baumeister et al., 2005), and this can affect the development of the self-concept. The following section will introduce theoretical models that are based on the need to belong theory and more closely illustrate how the need to belong may be associated with the development of the self-concept. The models discussed are “The Belonging Regulation Model”, “Rejection Sensitivity” and “The Self-concept Malleability Hypothesis”, all based on the foundation of the need to belong theory.

The Belonging Regulation Model

It is hypothesized that all individuals have an innate construct called the social monitoring system (SMS), with the function of regulating the belongingness need (Gardner et al., 2005). The system continually evaluates the person's levels of belonging and takes action as soon as the levels are too low. The SMS increases the individual's attention, processing and memory for social information, and the goal is to utilize this information to re-establish social belonging (Telzer et al., 2019). Telzer et al. (2019) argue that the SMS is particularly active during adolescence, mainly because of adolescents' heightened arousal compared to children and adults when being observed by peers. A similar model, known as the sociometer theory (Leary & Baumeister, 2000; Leary & Downs, 1995), state that the person's monitoring system works by decreasing the person's levels of self-esteem when detecting cues of social rejection.

There is thought to be a difference between short-term activation of the SMS and when the system is activated more frequently. Importantly, if the levels of belongingness remain unfulfilled over time the threshold for activating the system decreases (Telzer et al., 2019). This may explain why the system can become maladaptive over time (Gardner et al.,

2005). Evidently, children and adolescents who experience chronic social exclusion report a greater threat to their belongingness needs after just a single experience of social exclusion than non-victimized peers (Rudolph et al., 2016). In addition to a heightened monitoring of the social environment, the victimized individual often possess poorer social skills than non-victimized individuals (Telzer et al., 2019). Indeed, chronically victimized youth do not perform as good as non-victimized groups in perspective-taking tasks (Knowles, 2014), sophisticated social reasoning (Parker & Asher, 1993), and they have poorer conflict-resolution skills than the non-victimized adolescents (Champion et al., 2003). In other words, they are not to the same extent able to correctly interpret the social cues as helpful information to heighten their levels of social belonging. This means that their lowered threshold for activating the SMS likely leads them to attempt to be included more frequently, in addition to them not being as able to reconnect with peers.

The fact that the SMS is more frequently activated in chronically excluded individuals is likely to affect their self-concept. In the constant process of trying to be included, in addition to their poorer social skills, the chronically excluded individual is likely to experience further negative social interactions. Furthermore, repeated, negative social experiences is likely to change the general self-concept in a negative way (Shavelson et al., 1976).

Additionally, the hyper attunement that many victimized individuals demonstrate often leads to worse decision-making skills. A study conducted with adolescent girls demonstrated how the victimized girls' SMS was more focused on the in-group peers than out-group, leading them to seek inclusion in the group that was already excluding and stigmatizing them (Telzer et al., 2019). Another effect of impaired decision-making skills following social exclusion is the tendency for chronically rejected individuals to seek acceptance and inclusion in any group that can provide inclusion, in addition to an impaired ability to discriminate good from bad (Williams, 2007). Both these processes put the chronic excluded individual at a great risk of further negative experiences, like socializing with not-friendly people, or people who take advantage of them, which again may affect their self-concept in a negative manner (Shavelson et al., 1976).

People with a low self-esteem will generally alert the SMS more frequently than the people with a better self-esteem (Leary & Downs, 1995). The levels of self-esteem or self-concept in relation with the SMS may therefore explain how some people are vulnerable to negative social experiences like exclusion, and some are not. This points in a direction of a reciprocal relation between social exclusion and self-concept development. As mentioned,

because of these possible reciprocal effects, individuals experiencing social exclusion can often be trapped in a vicious cycle. These negative social experiences can affect their self-concept and behavior, which puts them at a greater risk of being socially excluded again.

Rejection Sensitivity

Another effect following social exclusion and deprivation of the need to belong may be that the individual starts to interpret objectively neutral social cues as hostile and a sign of exclusion. This behavioral pattern is called *rejection sensitivity* (Downey & Feldman, 1996), or; “the tendency to anxiously or angrily expect, readily perceive and overreact to rejection can develop following aversive social experiences.” (Zimmer-Gembeck et al., 2014, p. 568). To be sensitive for rejection is a protective mechanism for excluded persons, making them more attentive to social cues that can indicate social exclusion, and motivate them to protect themselves from it (Berenson et al., 2009). However, people who are high on rejection sensitivity will often find themselves in situations perceived as threatening, and this increases the person’s stress and negative arousal. When individuals frequently expect rejection, these experiences may internalize, and they may often incorporate the role of “victim” in their self-concept (Ruggieri et al., 2013). This can lead to even higher rejection sensitivity, which makes the person interpret neutral or ambiguous social signals as deliberate rejection, and possibly overreact to the perceived rejection (Zhou et al., 2018).

People who are high on rejection sensitivity and are in a perceived threat-state, often suffer cognitive impairment after exclusion (Williams, 2007). They typically act more automatically, often at the expense of more cognitive responses including a rational problem-solving and the ability to reflect (e.g., Davis, 1992; Lang et al., 1990). Additionally, victimized individuals illustrate poorer regulation of emotions in social situations perceived as stressful (Ruggieri et al., 2013). The consequences of this may be that their abilities to avoid impulsive acts decreases, which again easily can lead to anger and aggression (Williams, 2007).

The reactions, and the pattern of behavior of many people high on rejection sensitivity, will likely ultimately impair their social relationships, and lead to even more exclusion and thus a more negative self-concept. In fact, children with higher levels of rejection sensitivity experience more perceived victimization (London et al., 2007) and are lonelier (Telzer et al., 2019) than their peers. These negative, social states and experiences affect the adolescent’s self-concept, it is for instance found strong relations between loneliness and self-esteem in adolescence (Mahon et al., 2006). It is also probable that the intensity of these negative emotional experiences may be especially strong for adolescents, given the exaggerated

attention they have for other's opinions (Sebastian et al., 2008). Many individuals expecting rejection in social situations will eventually avoid further social interactions in fear of being rejected again. The chronically excluded individuals may signalize to others that they are not interested in engaging in social interaction (Williams, 2007), which may hinder the process of developing a positive self-concept.

Similar to the SMS, rejection sensitivity may explain possible reciprocal relations between social exclusion and self-concept. Downey et al. (2004) illustrated that negative beliefs about the self can lead to higher levels of rejection sensitivity. This is due to the attentional biases that can form as a consequence of more negative self-concept and interfere with the interpretation of social cues (Downey et al., 2004). This effect was also found in the Zhou et al. study (2018), where they conclude that individuals who report lower levels of self-esteem are at greater risk of experiencing high levels of rejection sensitivity.

The Self-Concept Malleability Hypothesis

An alternative perspective of how repeated social exclusion thwarting the need to belong is connected to the self-concept is the evidence for how some chronically excluded individuals attempt to change and modify their own self-concept. This is illustrated by the self-concept malleability hypothesis (Richman et al., 2015). After conducting five studies, Richman et al. (2015) suggested that the need to belong is a motivational factor leading to the self-concept becoming more malleable after experiences with social exclusion. Perceived similarity is considered to be a predictor of liking and acceptance. This suggests that an excluded individual will benefit from expanding or modifying their self-concept to become more similar others to regain belongingness to a group (Richman et al., 2015). This process makes the individual vulnerable to develop a more negative self-concept, because their self-concept becomes dependent on the potential friend that the individual is trying to connect with. This presents a possibility to develop the self-concept in a positive direction, but also in a negative way. Furthermore, self-esteem is more malleable in early compared to middle and late adolescence (Shahar & Henrich, 2012), suggesting that the population in the current study (ages 10-14) is a particularly vulnerable period of time for the self-concept. This corresponds with Erikson's psychosocial developmental theory, indicating that emerging adolescence is characterized by confusion and identity diffusion, feelings that gradually diminish throughout later adolescence (Shahar & Henrich, 2012).

The Present Study

Based on the models and the empirical evidence presented above, the present study aims to extend the literature on self-concept development and stability by 1) targeting the

transition from late childhood to adolescence; 2) including a focus on social exclusion; 3) investigating reciprocal relations between self-concept and social exclusion, and 4) applying a statistical model that accounts for changes within-, not only between- individuals. More specifically, we investigate whether teacher-reported social exclusion at ages 10 and 12 predicts a more negative general self-concept at ages 12 and 14, respectively, and *visa versa*, whether those with a more negative general self-concept at ages 10 and 12 are at a greater risk of being socially excluded at ages 12 and 14. Furthermore, we address the stability in self-concept *per se*.

Methods

Participants and Procedure

The participants of the current study are part of the Trondheim Early Secure Study (TESS; Wichstrøm et al., 2012), established in 2007. The study's primary goal is to investigate children's mental health over time, and to examine psychosocial development during childhood and adolescence (Steinsbekk & Wichstrøm, 2018). It is a longitudinal study, which makes it possible to identify developmental trajectories and risk factors of mental health problems in children (Steinsbekk & Wichstrøm, 2018).

All children in Trondheim, Norway, born in 2003 and 2004 ($N=3456$), were invited to participate in the study. An invitation letter was sent to the children's homes, along with the screening assessment The Strength and Difficulties Questionnaire (SDQ) (version 4-16) (Goodman, 1997). The questionnaire was collected when the parents took their children to their 4-year-old health check-up. The health nurse provided information about the study, and the parents gave their written participant consent. Figure 1 illustrates a flowchart of recruitment to the study, demonstrating how 2475 families consented to participate, which is 82,2% of those asked (Steinsbekk & Wichstrøm, 2018).

The SDQ total problem scores were divided into four strata (cut-offs: 0–4, 5–8, 9–11, and 12–40), this was to ensure an oversampling of children with emotional and behavioral difficulties. In other words, with increasing SDQ-scores came an increased likelihood of being included in the TESS-study (Hygen et al., 2020; Steinsbekk & Wichstrøm, 2018). 1250 children were drawn to participate, and 1007 participated at time 1 (T1). Table 1 illustrates the sample characteristics, including child gender (48.3% boys and 51.7% girls). The participants and their parents at T1 were found to be representative for the Norwegian population (Wichstrøm et al., 2012). In the current study we have assessed measurements of social exclusion and self-concept at the ages 10 (T4) ($n = 701$, $M = 10.51$, $SD = .15$), 12 (T5)

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($n = 661$, $M = 12.49$, $SD = .15$) and 14 (T6) ($n = 625$, $M = 14.35$, $SD = .16$). In summary, the analytic sample in the present study was $n = 719$.

Figure 1 provides information on dropouts of the TESS, illustrating generally low attrition rates. The researchers found few factors predicting dropouts, however, there are some factors predicting attrition between some of the time points, but not others (Steinsbekk & Wichstrøm, 2018). The attrition-analyses of the current study showed that general self-concept scores at T5 significantly predicted attrition at T6 ($p = .006$, $OR = .46$, 95% CI [.27 - .80]), which means that children who reported a more negative self-concept at age 12 were more likely to drop out of the study at age 14. Additionally, children whose teacher reported higher rates of social exclusion at T4, were at a significantly higher risk of drop-out at T5 ($p = .012$, $OR = 1.42$, 95% CI [1.08 - 1.88]). In other words, higher levels of teacher-reported social exclusion at age 10 increased likelihood of dropping out of the TESS-study at 12 years of age.

Measures

Self-Concept

The children's general self-concept was measured by the Norwegian translation of the Self Description Questionnaire (SDQ-I; Marsh, 1990) at age 10. This instrument consists of subscales that provide the opportunity to study different dimensions of the self-concept. In addition to a General-Self subscale, the questionnaire assesses four nonacademic areas (physical appearance, physical ability, parent relationships and peer relationships), and three academic areas (mathematics, reading and general school) (Marsh, 1990). The seven items of the General-Self subscale were assessed in the present study. The scale concerns one's feelings of self-confidence and self-worth, but due to copyrights, the items are not cited here. The instrument is measured by a five point scale ranging from false (1) through mostly false (2), sometimes false, sometimes true (3), mostly true (4), to true (5) (Marsh, 1990).

At ages 12 and 14 there was a shift in instrumentation, from SDQ-I to the Norwegian translation of the Revised Self-Perception Profile for Adolescence (SPPA-R) (Harter, 1988). Examples of items answered in the SPPA-R are; "I am often disappointed in myself", and "I am happy with myself most of the time" (Harter, 1988). The SPPA-R is measured by a scale ranging from; describes me very well (1), through describes me well (2), describes me poorly (3) to describes me very poorly (4).

The change in instrumentation was to ensure that the measures were developmentally appropriate, as the child emerges into adolescence (Steinsbekk, Wichstrøm, Stenseng, Nesi,

Hygen, & Skalická, 2021). The SDQ-I was replaced with SDQ-II in the reliability-analyses, because SDQ-II is developed for adolescents (Marsh, 1990). The items used are included in the Global Self-Worth subscale in SPPA-R, believed to reflect the General-Self subscale of SDQ-II. Both the SDQ-II and the SPPA-R showed acceptable reliability (SDQ-II at T4 $\alpha = .87$; SDQ-II and SPPA-R at T5 respectively $\alpha = .75$ $\alpha = .77$; SPPA-R at T6 $\alpha = .84$). Both measures were applied at age 12, this was to ensure that the two questionnaires capture the same construct (i.e., construct validity). The disattenuated correlation (Munchinsky, 1996) between these two measures (the General-Self subscale and the Self-Worth subscale) was $r = .75$. This result indicates that it is possible to change the instrument, but still measure the same construct.

Social Exclusion

The Teacher Report Form (TRF) from the Achenbach System of Empirically Based Assessment (Achenbach & Rescoria, 2000) was used to examine the children's peer problems and social exclusion school. The teachers completed this questionnaire at T4, T5 and T6. Stenseng et al. (2017) completed a factor analysis and a reliability analysis of the items to find a reliable measure of social exclusion. The analyses resulted in a pool of three items to describe peer problems and social rejection; "Not liked by other children/pupils", "Doesn't get along with other children/pupils" and "Gets teased a lot". The instrument is measured by a three point scale ranging from not true (1) through somewhat or sometimes true (2) to very true or often true (3) (Stenseng et al., 2017). The items showed acceptable reliability for exploratory research (T4 $\alpha = .66$; T5 $\alpha = .76$; T6 $\alpha = .65$).

Statistical Analyses

A random intercept cross-lagged panel model (RI-CLPM) (Hamaker et al., 2015) (Figure 2) was applied to investigate bidirectional associations between teacher-reported social exclusion and general self-concept. The RI-CLPM was proposed as an alternative to the traditional cross-lagged panel model (CLPM) and includes random intercepts that partials out the within-person variance from the between-person variance (e.g. common genes, personality and neighborhood effects) (Steinsbekk, Wichstrøm, Stenseng, Nesi, Hygen, & Skalická, 2021). The traditional CLPM does not differentiate between these two levels, criticized by Hamaker et al. (2015) as having limited validity because some of the effects may be due to stable, between-person factors (individual differences). In order to find such within-person associations, the RI-CLPM disentangles the between-person effects from the within-person effects. The RI-CLPM creates two latent random intercepts representing the stable,

between-person components, thereby separating these effects from the within-person component.

We argue that the RI-CLPM is an appropriate statistical analysis for the hypotheses of this study because the hypothesized relations between social exclusion and general self-concept are thought to take place at the within-person level. We wanted to investigate whether the individual's own levels of social exclusion at a given time can predict changes in that same individual's general self-concept.

To evaluate whether the method and the model is an appropriate way of testing the hypotheses, one alternative is to statistically assess the model fit. Values of the comparative fit index (CFI; Bentler, 1990) and the Tucker-Lewis index (TLI; Tucker & Lewis, 1973) close to 0.95 are considered reasonable indicators for good fit. In addition, we can assume that the model fit the data well if the values of the root mean squared error of approximation (RMSEA; Steiger, 1990), and the standardized root mean squared residual (SRMR; Hu & Bentler, 1999) are less than 0.06 and 0.08, respectively.

All analyses included in the current study were conducted in Mplus 8.4 (Muthén & Muthén, 2017). To account for the missing data, we used full information likelihood (FIML). Because the sample was stratified at sampling, by including more children with higher SDQ-scores, the analyses were weighted to be able to generalize the results to the general population.

Results

Table 2 displays the descriptive statistics of the study variables. There was a modest, significant, negative correlation between SPPA-R at T5 and; TRF at T4 ($r = -.12, p < .05$) and TRF at T5 ($r = -.11, p < .05$). This means that a more positive self-concept (SPPA-R) was modestly associated with lower levels of social exclusion (TRF). Additionally, there was found a small significant, negative correlation between TRF at T5 and SPPA-R at T6 ($r = -.12, p < .05$), indicating that higher levels of social exclusion (TRF) at age 12 were modestly associated with a more negative self-concept (SPPA-R) at age 14.

The aim of the present study was to examine possible reciprocal effects between social exclusion and self-concept. The random intercept crossed-lagged panel model fit the data well, $\chi^2(1) = 0.89, df = 1, p = .34, RMSEA < 0.001, SRMR = 0.009, CFI = 1.00, TLI = 1.00$.

At the between-person level (random intercepts), self-concept and social exclusion were not significantly correlated ($r = 0.01, p = 0.97$) (Figure 3). This means that on the group level we did not reveal that individuals with for example a more negative self-concept

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experience more social exclusion. However, the random intercepts for both self-concept and social exclusion do have significant variance. This indicates that there are stable differences at a group level for how high (more positive) or low (more negative) the levels of social exclusion and self-concept are, but the model did not indicate that the levels of self-concept and social exclusion covary.

At the within-person level, increased teacher-reported social exclusion at age 12 significantly predicted decreased self-concept reported by the adolescent at age 14 ($\beta = -0.12$, $p = 0.04$) (Figure 3). However, this effect did not prove significant between 10 and 12 years of age. The results did not indicate that children with a less positive self-concept were socially excluded more frequently than other children. As such, there were no findings of a reciprocal relation between self-concept and social exclusion, however, there was identified cross-sectional correlations at age 14 showed that children with a better self-concept experienced less social exclusion.

Effects beyond the crossed-lagged associations indicated a stability in the general self-concept between ages 12 and 14 ($\beta = 0.21$, $p = 0.01$) (Figure 3). A more positive self-concept at the age of 12 predicted a more positive self-concept at age 14, but the same significant effect was not found between age 10 and 12. The stability coefficient in self-concept age 12-14 was significantly different from the stability path coefficient (age 10-12), based on the Sattora-Bentler test ($\chi^2(1) = 26.34$, $p < .001$) (Sattorra & Bentler, 2001). There was no significant within-person stability in teacher-reported social exclusion between the ages of 10 to 12 and from 12 to 14 years of age.

Discussion

The current study evaluated the propositions that 1) social exclusion has a negative effect on the adolescents' self-concept, and reciprocally, 2) that adolescents with a more negative self-concept is at a greater risk of being socially excluded. By investigating a large community sample, and accounting for between-person information, we found that teacher-reported social exclusion at age 12 modestly predicted a more negative general self-concept at age 14, at the within-person level. Evidently, multiple factors, like for instance the family's socioeconomic status (Gasa et al., 2019) and the teacher's expectations to the child (Pesu et al., 2016), impact the self-concept, thus social exclusion is only one of them. Nevertheless, the effects might have been stronger depending on the measurements, methods, and population. We found no other, significant crossed-lagged associations. With regards to the stability of the constructs measured, there was a modest, significant stability of the self-

concept measure between 12 to 14 years of age. Again, no other regression paths turned out significant.

To the best of my knowledge, this three-wave longitudinal study is the first to demonstrate that social exclusion impacts the general aspect of the adolescent's self-concept using a statistical method investigating the effects at the within-person level. We have identified that changes in an adolescent's own levels of teacher-reported social exclusion at age 12 predict changes in that same person's self-concept at age 14. As such, we contribute to extend the literature beyond pure between-person research. Furthermore, and a prerequisite for the statistics applied, the current study provided longitudinal data, which generally lacks when evaluating social exclusion (Stenseng et al., 2014a). The combination of a stronger need to belong and a shift towards social information on the one hand, and a need for developing a stable and independent self-concept on the other hand, makes adolescence an important period for evaluation of factors impacting the self-concept.

Social Exclusion Predicted a More Negative General Self-Concept

The findings of the present study correspond with prior correlational research on the self (e.g. Gorrese & Ruggieri, 2013; Goswick & Jones, 1981; Houbre et al., 2010) reporting that social exclusion has a negative effect on the adolescent's development of the self. This further corresponds with the self-concept malleability hypothesis (Richman et al., 2015), postulating how the self-concept of excluded individuals in many cases is changeable after experiencing social exclusion. Relatedly, the present results corresponds to the results of a longitudinal study that found that bullying predicted a more negative self-concept in adolescents (Houbre et al., 2010). As such, the current study illustrates that even potentially milder forms of bullying, i.e., exclusion, may interfere with adolescents' development of the self. Additionally, our results include a focus on the many changes occurring during puberty, a perspective missing in the Houbre et al. (2010) study.

Furthermore, and from a broader perspective, the current findings correspond with classical theories that emphasize that studies of human development should take the social context into consideration (e.g. Baumeister & Leary, 1995; Bronfenbrenner, 1979; Harter, 1999). Indeed, we found that adolescents' development of self is not independent from the social environment and the adolescent's social experiences.

Social Exclusion and The Need to Belong

The indicated effect social exclusion has on the self-concept from ages 12 to 14 fits well with the need to belong theory, concerning how social exclusion is damaging to the excluded individual in many aspects of life, including the self-concept (Baumeister & Leary,

1995). The results may also be considered as further evidence to the idea that the need to belong is a general theory of fundamental human development and interaction (Stenseng et al., 2014b), concerning adolescents as well as adults. Our results point to the fact that the need to belong is likely to be strong during adolescent years, corresponding with previous research (e.g., Buhrmester, 1998; Telzer et al., 2019; Underwood & Ehrenreich, 2014).

However, we did not find a significant association between teacher-reported social exclusion at age 10 and the general self-concept at age 12. This can indicate that social exclusion, and hence reduced belongingness, may be particularly unfortunate for children when entering early adolescence (at approximately age 12). This is compatible with the indications of how peers and belonging to a social group becomes gradually more important during adolescence (Pattiselanno et al., 2015). The focus on fitting into a group, and the value adolescents place in peers' judgements of them (Telzer et al., 2019), can explain why social exclusion may have specifically maladaptive effects on the individuals self-concept as they emerge from childhood to adolescence. On the other hand, the associations found were modest, thus there are likely many other factors that foster self-concept development. As regards to the null-findings from ages 10 to 12, one should, however, not exclude other negative effects of social exclusion that we may not have been able to tap into.

The sample consists of Norwegian emerging adolescents, which means that the individuals experiencing social exclusion in their last years of elementary school (year 6 or 7) carry these experiences with them to middle school (year 8 or 9) in form of a less positive self-concept. Normally, the individual's social environment changes when entering a different school, but the effects of social exclusion seem to prevail even when the social context changes. This may be seen as support to the social monitoring theory (Gardner et al., 2005) and rejection sensitivity theory (Downey & Feldman, 1996), proposing that experiences with social exclusion impede basic social monitoring and social interpretation systems, leading to maladaptive strategies and behavioral patterns. These dysfunctional social approaches are believed to have negative effects on the process of developing a positive self-concept. One of these strategies may be to not engaging in social interactions based on their general, negative expectations in social situations, due to their heightened rejection sensitivity. Individuals with this behavioral pattern have little chance of experiencing positive social input. According to Shavelson et al. (1976) the self-concept requires multiple experiences that are inconsistent with the self-concept to change. When the person avoids any social experiences, they also miss the opportunity to experience enough positive social interactions to change their self-concept and gain a more positive understanding of themselves.

Our results did not, however, yield stable associations between social exclusion measured at different ages. In fact, social exclusion at age 10 did not predict social exclusion at age 12, and social exclusion at age 12 did not predict social exclusion at age 14. These findings are somewhat surprising, and do not correspond with general, prior research, finding that peer status seems quite stable in childhood and adolescence (e.g., Jiang & Cillessen, 2005; Will et al., 2016). Furthermore, the results can be interpreted as contradiction of the premises of the models of rejection sensitivity (Downey & Feldman, 1996) and the social monitoring system (Gardner et al., 2005). If social exclusion at one point in life does not predict further social exclusion later in life, maybe the social monitoring and interpretation systems are not as affected by social exclusion after all. A possible understanding of the dissonance between the results of the current study and most of the results of prior research is the difference of statistical methods. The previously mentioned studies on social exclusion have mixed the effects of the between-person and within-person effects, and thus, there is a possibility that the field has emphasized the between-person effects that social exclusion has on the rejection sensitivity and social monitoring systems. Namely, previous findings of the stability of social exclusion can possibly be explained by other time-invariant factors instead. The individual's personality is one such factor that may influence the results. However, it is important to stress that we have examined within-person stability, not rank-order stability, i.e. stability at the group level (Morken et al., 2021). The within-person stability measured by the RI-CLPM reflects whether changes from one's own levels of general self-concept at one moment in time carry over to the next point of measurement (Masselink et al., 2018). The difference in type of stability measured in previous studies and the current may be important to have in mind when comparing the results. Also, we emphasize that it is likely as important to evaluate the methodological aspects of the current study, like the data-collection methods, in discussing why the results vary from the previous research.

The Nature of Social Exclusion

An alternative perspective to why the results indicate a relation between social exclusion and self-concept between ages 12 to 14, and not ages 10 to 12, is that the social exclusion itself changes in the transition from childhood to adolescence. A hypothesis is that the kind of exclusion adolescents face threatens the need to belong more than the exclusion in childhood. Building on the knowledge of how the concept of groups and cliques become more important as the child transitions to adolescence (Pattiselanno et al., 2015), these results seem plausible. One can assume that in childhood, more of the social exclusion is situation-specific, and not as much associated with the exclusion of a group. This corresponds with former

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research, indicating how physical aggression becomes less common as the child moves into adolescence, and forms of relational exclusion take over (Wölfer & Scheihauer, 2013). One such form is ostracism, or being excluded and ignored, which is proved to pose a significant threat to the need to belong (Williams, 2007).

A different view on how social exclusion possibly affects the self-concept increasingly as the child enters adolescence compared to childhood, is based on the many changes happening in their cognition during this period. Firstly, the child becomes more attentive to social feedback, illustrated by the imaginary audience and their improved perspective-taking skills. This likely leads to the individual perceiving more social cues, including cues of exclusion, making them and their self-concept more vulnerable to being affected by negative social influence. An example is the ability to understand irony. The increased ability of perspective-taking makes the emerging adolescent more capable to understand the wider context in a social situation (Sebastian et al., 2008). This makes it possible for the individual to evaluate the other person's mental state, and thereby interpret the implied meaning of an action. Consequently, the adolescent is able to detect irony, and thereby interpreting a remark differently, and often more negatively (Sebastian et al., 2008). This acquired skill of for instance detecting irony may present the emerging adolescent with the possibility of experiencing more negative, social interactions, which again may affect their self-concept negatively.

Another change the individual experiences when emerging adolescence is the role and involvement of parents and adults, which can affect how the child handles the social exclusion. This can, in turn, contribute to the understanding of why social exclusion seems to have a more negative effect on 12-14-year-olds than 10-12-year-olds. In fact, adolescence is thought to be the most challenging period of time for the relationship between child and parent (Cripps & Zyromski, 2009). Even though parent-involvement and support is vital to the adolescent's development and well-being (Withers et al., 2017), teens spend an increased time in unsupervised activities (Dishion & McMahon, 1998). Indeed, adolescents have the tendency to avoid adult supervision (Dishion & McMahon, 1998), making it difficult for parents and other adults like teachers to be as actively involved in the adolescent's social life with peers as before. This developmental process of increased independence is especially relevant to the current study due to the fact that the social exclusion is reported by teachers. Because the teachers in many cases participate less directly in the adolescent's social life, one can wonder if they perceive the actual exclusion happening, to be discussed later. The process of increased independence in the social context is natural and necessary part of development

(Withers et al., 2017), but it may present some challenges for the emerging adolescence when it comes to social exclusion. Adolescents who experience social exclusion may be especially affected by these episodes of rejection compared to younger children because they might feel more vulnerable and alone without the close support by parents.

The Stability and Malleability of the Self-Concept

Decades of research indicates that the self-concept is both a stable and malleable construct (Krol et al., 2019). The stability of the general self-concept in the current study was evaluated at the within-person level, as previously explained with regards to the stability of the social-exclusion variable. On the one hand, humans strive to maintain a stable sense of self, illustrated by, for instance, our general unwillingness to accept feedback from others that is inconsistent with our own understanding of ourselves (Krol et al., 2019). On the other hand, research illustrate how the self-concept is a dynamic construct, vulnerable to influence (e.g., Richman et al., 2015; Turner et al., 2010), when for instance experiencing social exclusion. When investigating adolescents, it is possible to gain a more developmental perspective on the self-concept, currently lacking on the field. The discussion of the stability and malleability of the self-concept in adolescence can be seen in connection with the dilemma most adolescents face. Adolescence is a period often characterized by a wish for increased independence and developing a stable self-concept, while simultaneously trying to connect with peers and a social group to maintain their need to belong.

The results of the current study identified a somewhat modest, yet significant association between the general self-concept in ages 12 and 14, indicating that a more negative self-concept at age 12 significantly predicts a more negative self-concept at age 14. Again, note that the stability was found at the within-person level, which is important to have in mind when comparing the current results with previous research assessing rank-order stability. The same association was not found from 10 to 12 years of age, suggesting that the general self-concept becomes more stable as the child enters adolescence.

The present findings fit well with Erikson's psychosocial theory (1968), where the identity is thought to become a more stable construct during adolescence. A longitudinal study (Cole et al., 2001) found that the self-concept generally stabilizes over time, not interrupted by dramatic transitions in the developmental, social and educational domain. However, the researchers noted a destabilization of several domains of the self-concept between age 11 and age 13 (Cole et al., 2001). Moreover, there were no evidence of remarkable destabilization in the self-concept between age 13 and age 15 (Cole et al., 2001). The results of the current study also indicate this pattern; a period of modest stability (age 12-

14) after a period of instability (age 10-12). However, the current study lacks the results of stability of the self-concept among children younger than age 10, making it impossible to evaluate whether the instability of the self-concept found between age 10 and 12 is a period of instability, or if the self-concept lacked stability before age 10 as well. This means that it is difficult to argue that the modest stability found between 12 and 14 years of age is a result of a gradually more stable self-concept, or if the self-concept at this age is a re-stabilization after a period of destabilization between age 10 and age 12.

The results concerning the stability of the self-concept between ages 12 and 14 matches the mean onset of puberty (Blakemore et al., 2010). Puberty is important in developing the self-concept, illustrated by for instance the ability of emotional perspective-taking; a skill essential in distinguishing the self from others (Choudhury et al., 2006). In addition, we need perspective-taking to utilize information about other's opinions of us to form a self-concept (Shavelson et al., 1976). Emotional perspective-taking seems to be dependent on the changes following puberty (Choudhury et al., 2006). One study examined the development of emotional perspective taking, revealing that pre-adolescents (mean age 8,6 years) had a less systematic style of perspective taking, and being less efficient in the processing of other people's emotional perspectives, than adolescents (mean age 12,8 years) (Choudhury et al., 2006). This is similar to the present findings, illustrating that the stability of the self-concept increases as the child enters adolescence and moves through puberty.

Even though the results of the current study indicate a more stable general self-concept as the child moves through early adolescence, we also point to the fact that the self-concept in fact also is vulnerable to influence. This can be seen as reflection of the developmental period of adolescence itself, and the tasks in this period in general. Adolescence is characterized by increased independence and stability, as well as being particularly vulnerable to social influence. Demo and Savin-Williams (1992) concluded that during adolescence; "the self-concept is at once both stable and malleable" (p. 135), corresponding with the findings of the current study. The possible gradual stabilization, together with the vulnerability to be influenced, presents both strengths and challenges for the adolescent. As we have seen, the social exclusion may have negative impact on their understanding of themselves, but with this vulnerability comes opportunities as well. Especially together with the increased focus and motivation towards connection with other socially, the youth is in a unique position to develop their self-concept in a positive way. When interacting with the right people, fostering positive emotion and social experiences, adolescence is a time where the self-concept can get a positive boost, and develop to strengthen their belief in themselves.

Strengths and Limitations

The current study has many strengths, including a large community sample, followed up at 10, 12 and 14 years of age, and inclusion of a sophisticated statistical approach that is warranted in contemporary developmental research. However, there are important limitations as well. First of all, although the statistical approach applied herein is recommended, it is also a power-demanding method (Masselink et al., 2018), and our sample was at the lower end ($n = 719$). As such, null-findings should be interpreted with care.

Second, the lack of more significant results in the current study may be a result of the use of the general self-concept variable, and not the specific domains of self-concept like social-, or academic self-concept. This is in line with the suggestions from Marsh (1990), claiming that there may be more results when using a specific domain. This does not mean that the general self-concept is unusable in research, and there are still many reasons why investigating a general self-concept or global self-esteem is important. Even if the reliability of the applied measurements for self-concept was acceptable (SDQ-I and SPPA-R at T5 $\alpha = .75$ $\alpha = .77$), higher reliability could have yielded even more precise estimates. As such, we cannot exclude that associations reported herein may be somewhat stronger.

Third, we changed in instrumentation when measuring the general self-concept from the SDQ to SPPA-R. Even though the construct validity was acceptable, such a shift in instrumentation may lead to measurement errors, and may be a reason for the lack of results concerning stability in the general self-concept between ages 10 and 12.

Fourth, the data on social exclusion was obtained from teachers. This may represent both strengths and limitations. A central question in the current study is whether the actual amount of social exclusion is reflected in the levels of social exclusion that the teachers reported. Teachers often view exclusion as being a part of the normative developmental process (Veenstra et al., 2014), and with this attitude teachers may not recognize the whole amount of exclusion behavior. One study (Cohn & Canter, 2003) concluded that 25% of American teachers do not see a problem with bullying, and reported that they intervened in only 4% of the bullying situations they perceived. Furthermore, we did not tap into exclusion behavior online, such as cyberbullying (Delgado et al., 2019), a form of exclusion that may be particularly difficult for teachers to notice, because they generally have a poorer comprehension of technology than adolescents (Cassidy et al., 2012). The exclusion happening online, and the fact that the teachers only observe the children at school and not on other arenas where social exclusion may happen, can lead to the teacher and the student reporting different exclusion-scores. An additional aspect of this issue is that excluded

individuals may interpret incidents happening in their environment as exclusion because of their heightened rejection sensitivity, making it difficult for teachers to notice and acknowledge the experienced social exclusion. Based on the assumptions that not all the subjective experiences of social exclusion are included, due to the teacher-reported measures, the results must be viewed with this in mind. With that said, given that we identified associations between teacher reported exclusion and general self-concept – in spite of these possible limitations – point to a likely robust negative effect of social exclusion on adolescents' general self-concept.

Implications

A negative self-concept has maladaptive effects on psychological functioning, which makes identifying factors influencing the development of the self-concept important. The findings that social exclusion at age 12, on a within-person level, significantly affects the general self-concept at age 14 may have important implications. For example, whether or not adolescents bring experiences with social exclusion with them when transitioning to a new school (after age 13 in Norway) seems to be of importance and requires communication between teachers, parents, student and schools. As such, one can identify the children who have a history of being socially excluded, and initiate action to try to avoid the negative effects these experiences may have on the general self-concept. However, one of the most effective ways of preventing the development of a more negative self-concept may be to facilitate a safe social environment, without the risk of being socially excluded.

Given that the current results did not yield support for the hypothesis that the quality of the adolescent's general self-concept affects their risk of being socially excluded, one should be cautious in trying to find an explanation to why the specific adolescent is excluded. There should perhaps be a focus, in clinical work and research and in school, of different aspects of the environment and the child than their self-concept when there are evaluations of which adolescents are more vulnerable to social exclusion.

Additionally, future research should assess self-reported social exclusion to examine whether the levels of social exclusion differs from the amount that teachers report. On the other hand, following the framework presented here, and regarding social monitoring and rejection sensitivity, one may believe that the adolescent is at risk of reporting more exclusion than what objectively happens, because of their bias towards perceiving exclusion. Then again, this may be valuable information in and by itself. After all, it is the perceived environment that affects the individual, and not how much exclusion they objectively experience (Telzer et al., 2019).

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Furthermore, based on the present finding that the self-concept somewhat gradually stabilizes from ages 12 to 14, it would have been interesting if future within-person studies replicate this, and also examine whether this consolidated beyond the age of 14.

Finally, there are of course other factors than social exclusion impacting the development of the self-concept among adolescents, but exploring them was beyond the scope of the current study. Future research work should extend the understanding of what affects the general self-concept, for instance by differentiating the variable of social exclusion to different kinds of social exclusion. This can help guide future interventions targeting the development of a positive self-concept.

Conclusion

The current study aimed to investigate the bidirectional associations between social exclusion and the general self-concept from ages 10 to 14 in a large community sample, at the within-person level. We found modest associations between social exclusion and self-concept, yet only in one direction. The amount of social exclusion that a 12-year-old experienced significantly predicted the quality of the self-concept at age 14. No bidirectional relations were identified. In terms of stability, only the individual's levels of the general self-concept at age 12 predicted the same persons levels of the general self-concept at age 14. Again, the effect was modest. As such, self-concept in adolescence between 10 and 14 years of age is malleable to change, yet tend to increase in stability during the transition to adolescence. During this transition, adolescents face the task of becoming more independent with a positive general self-concept, and- likely as important- to belong and adjust themselves to social groups. The present results demonstrate the power of such belongingness during adolescence.

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Relations Between Self-Concept and Social Exclusion

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Appendix

Figure 1

Recruitment Flowchart and Follow-up

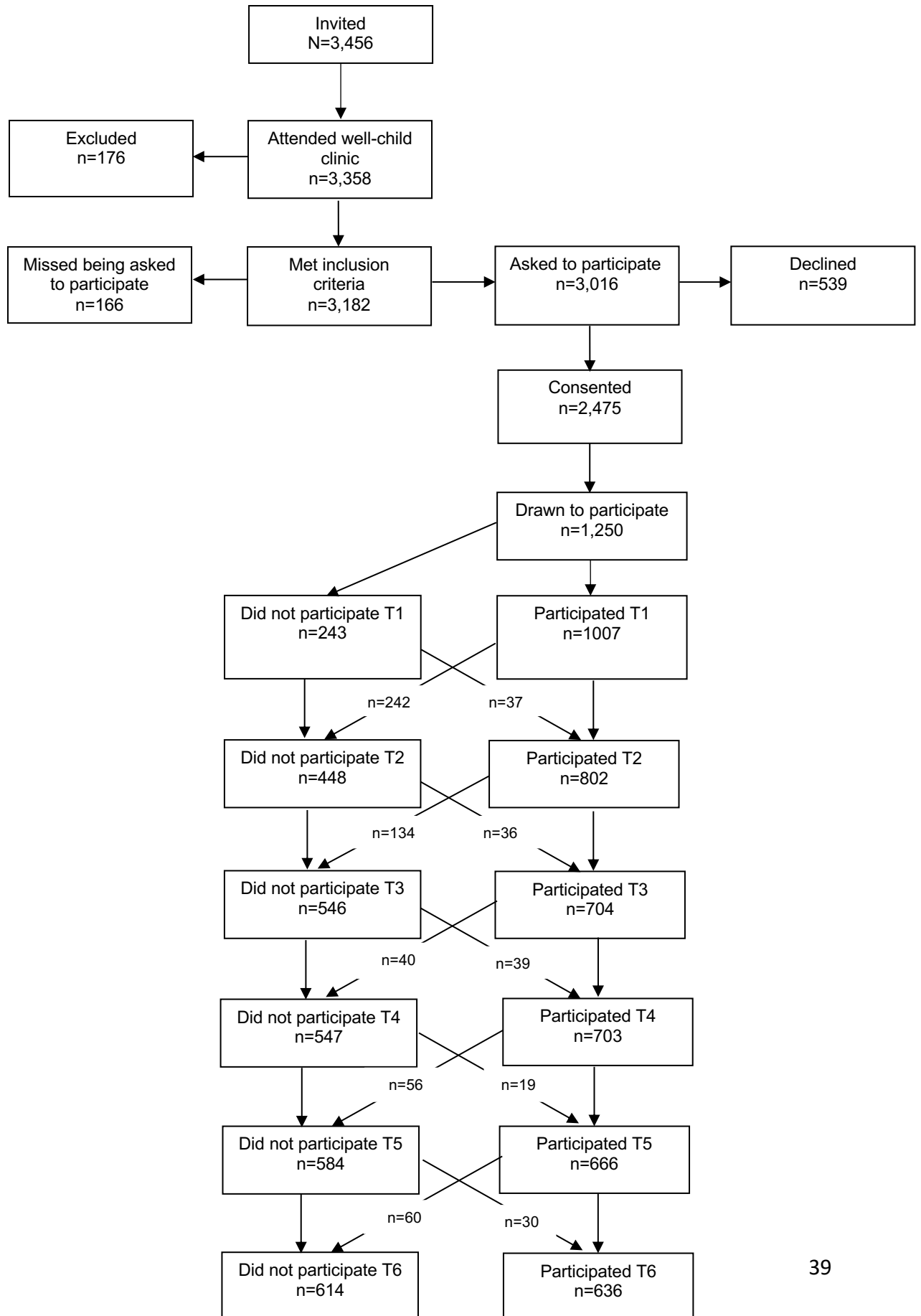


Table 1

Sample Characteristics (%) of Participants at Study Enrollment (T1)

Category	Sample Characteristics (%)	(%)
<i>Gender of child</i>	Boys	48.3
	Girls	51.7
<i>Ethnic origin of biological mother</i>	Norwegian	93.0
	Western countries	3.8
	Other countries	3.2
<i>Ethnic origin of biological father</i>	Norwegian	91.1
	Western countries	6.2
	Other countries	2.7
<i>Parental highest SES after ISCO-88</i>	Leaders	21.1
	Higher professionals	40.5
	Lower professionals	25.1
	Skilled and unskilled workers, farmer/fishermen	13.3

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Table 2

Means, Standard Deviations, and Bivariate Correlations Between All Study Variables.

	Mean	SD	Min/Max	TRF T4	TRF T5	TRF T6	SDQ T4	SPPA-R T5	SPPA-R T6
TRF T4	3.32	0.72	3.000/8.000	-					
TRF T5	3.27	0.73	3.000/7.000	.41**	-				
TRF T6	3.23	0.62	3.000/8.000	.34**	.24**	-			
SDQ T4	3.56	0.46	1.400/4.000	-.08	-.07	.04	-		
SPPA-R T5	3.26	0.58	1.000/4.000	-.12*	-.11*	-.01	.26**	-	
SPPA-R T6	4.44	0.55	1.000/5.000	-.07	-.12*	-.04	.21**	.040**	-

Note. n = 719, *p < .05, **p < .01.

