Chapter 12

Prevalence, prevention and reduction of adolescents’ self-serving cognitive distortions in secondary schools and correctional facilities

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1. Introduction

According to Barriga, Morrison, Liau and Gibbs (2001) moral cognitions predict externalizing problem behavior. In their study, moral cognitions comprise moral reasoning competence, moral identity and self-serving cognitive distortions. Moral reasoning competence refers to the highest stage of development of moral reasoning one is capable of at the time of measurement (Colby & Kohlberg, 1987). The relationship between moral competence and externalizing problem behavior has in general shown to be weak (Nelson, Smith & Dodd, 1990). Externalizing problem behavior can be conceptualized as outward behavior that either directly or indirectly harms others through the violation of important moral or social norms, and includes aggressive and delinquent acts (cf. Barriga, Gibbs et al., 2001). In a recent meta-analysis containing 50 studies, however, the difference in level of moral reasoning between incarcerated delinquents and non-delinquents was substantial (Stams et al., 2006). Reasons for the rather weak relationship between moral competence and externalizing problem behavior in separate empirical studies could
be that the concept of moral competence is highly abstract, is measured in hypothetical situations, and refers to a current achievement. Externalizing problem behavior on the other hand is very concrete and refers to past real-life behavior. Consequently, mediating variables have been introduced to bridge the gap between moral competence and (im)moral action. Moral identity and self-serving cognitive distortions among other constructs have been put forward to bridge this gap (e.g., Kuther & Higgins-d’Alessandro, 2000).

Moral identity refers to the centrality of moral traits in the definition of the self. This definition was proposed by Blasi (1983) who suggested that the moral self is a source of moral motivation.

According to Blasi one has a moral identity to the extent that the self is organized around moral commitments. In more general terms it seems that moral behavior depends at least partly on the degree to which one perceives the significance of social events in moral terms; and such moral attention and interpretation are likely only if being moral is central to one’s deepest sense of who one is. Conversely, failure to see the moral significance of social events (because morality
is not relevant to the self-schema) may hinder the activation of moral cognitive processes that could inhibit temptations or impulses to act antisocially.

Cognitive distortions are inaccurate or biased ways of perceiving and interpreting social experiences (Barriga, Gibbs, Potter, & Liau, 2001; Sykes & Matza, 1957). Cognitive distortions associated with externalizing behavior are called self-serving, while cognitive distortions associated with internalizing behavior are called self-debasing. Self-serving cognitive distortions (SSCD) facilitate and maintain externalizing problem behavior, while self-debasing cognitive distortions fulfill that function for internalizing behavior (Barriga, Hawkins, & Camelia, 2008).

Many social scientists accept the idea that delinquent behavior is learned and that delinquents share the same important social and moral values as non-delinquents do. Hence delinquents need self-serving cognitive distortions to make their behavior acceptable to themselves and others. This assumption contrasts with the assumption upheld by other social scientists who believe that delinquents do not share the
same values as non-delinquents do, but share different values or simply oppose to societies’ traditional moral values. Currently, most attention is paid to delinquents’ cognitive distortions\(^1\).

Barriga, Morrison et al. (2001) developed a four-category typology of SSCD: self-centeredness (regarding one’s own views and needs as important to such a degree that views and needs of others are scarcely considered), blaming others (misattributing blame to external sources), minimizing/ mislabeling (depicting antisocial behavior as causing no real harm or being acceptable) and assuming the worst (gratuitously attributing hostile intentions to others). A functional differentiation is made between the primary SSCD (self-centeredness) and the three categories of secondary SSCD (blaming the other; minimizing/mislabeling; assuming the worst). The primary SSCD increase the chance of engaging in antisocial behavior. The secondary

\(^1\) A limitation is that to the best of our knowledge no studies are available that try to unravel the question whether delinquents and non-delinquents are characterized by having different sets of values which result in different types of behavior (delinquent versus non-delinquent) or whether they share the same set of values but delinquents showing a higher level of cognitive distortions resulting in different types of behavior (delinquent versus non-delinquent) (Beerhuizen & Brugman, 2013).
SSCD support the primary SSCD and serve to neutralize potential feelings of guilt or feelings of empathy with the victim in order to prevent damage to the self-concept resulting from one’s own antisocial behavior.

2. The prevalence of self-serving cognitive distortions (SSCD) in adolescents in the Netherlands: effects of gender, educational level and ethnic background.

Based on several studies a dataset was constructed containing 2219 youths (1254 males and 965 females), aged 12-18 years (Brugman et al., 2011). A total of 1961 adolescents (1011 males and 950 females; $M_{age} = 14.24; SD = 1.26$ years) from 26 normal secondary schools of different educational levels (junior vocational, medium vocational, higher general and university preparatory secondary education) participated in the research; these adolescents will be called non-delinquents although, as we will see, a substantial percentage reported delinquent behavior. A total of 258 adolescents (243 males and 15 females; $M_{age} = 15.69; SD = 1.29$ years) from four youth detention
facilities in the Netherlands also participated in the research. The HIT-Q was administered individually to the juvenile delinquents and in classrooms to the non-delinquent adolescents. Because of the different composition of the two samples on demographic characteristics the effects of age, gender, educational level, ethnic background were investigated. Age was not related to the HIT-Q score, neither in the non-delinquent group nor in the delinquent group. However, sex, educational level (low vs high) and cultural background were related to SSCD in the non-delinquent group, using a measure for response tendencies (the True AR-score) as covariate. As expected, males showed a higher prevalence of SSCD than females; adolescents from schools of lower educational levels a higher prevalence than adolescents from schools of higher educational levels; and finally adolescents from minority groups a higher prevalence than adolescents from the dominant cultural group, having parents with both a Dutch cultural background. The latter effect, however, was very small. No interaction-effects were found.
To compare the prevalence of SSCD in incarcerated delinquent and non-delinquent adolescents only males were included having the same (low) educational level. Furthermore, we split the non-delinquent group at the mean score in adolescents reporting relatively much delinquent behavior and adolescents reporting no or very little delinquent behavior. This split is further justified because nationwide self-report studies in the Netherlands showed that about 45% of the adolescents at the age of 15 years report delinquent behavior (Kruissink & Essers, 2004). When in the non-delinquent group only adolescents were selected who reported a low level of delinquent behavior, the difference between the groups on SSCD is significant and shows a medium effect size ($F(2,648) = 29.58, p < .001; \eta^2_p = .08$).

The group of incarcerated delinquents and the group of adolescents reporting a high level of delinquent behavior both show a higher prevalence of SSCD than the group of adolescents reporting a low level of delinquent behavior (respectively, $M_{\text{incarcerated delinquent}} = 2.85, SD = 0.75$; $M_{\text{non-delinquent-high}} = 2.93, SD = 0.65$; $M_{\text{non-delinquent-low}} = 2.45, SD = 0.65$). Comparison between the three groups (Bonferroni) showed that
the incarcerated delinquents and the adolescents in school reporting a high prevalence of delinquent behavior did not differ from each other, but both differ in the prevalence of SSCD from adolescents reporting a low prevalence of delinquent behavior. This finding is consistent with earlier reports by Nas et al. (2008) and Van der Velden et al. (2010a) that the prevalence of SSCD is very high in male adolescents in secondary schools of a lower educational level. According to the American and Dutch norms the mean score of both the incarcerated delinquent group as well as the normal group reporting a higher prevalence of delinquent behavior falls within the range of the borderline-clinical group. It seems to confirm our earlier conclusion (e.g., Van der Velden et al., 2010b) that these youngsters need respectively an effective intervention or prevention program to reduce their externalizing problem behavior. Other studies (e.g., Høst, Brugman, Tavecchio & Beem, 1998) have shown that many of these students perceive a relatively low moral atmosphere in school and that their moral competence is at a low developmental level. In sum, SSCD is rather strongly related to self-reported delinquent behavior as well
as to officially recorded delinquent behavior in incarcerated juvenile
delinquents when using a clean comparison group of the same sex,
educational level, and ethnic background.

3. The direction of the relationship between SSCD and externalizing
   problem behavior

   The next question concerns the direction of the relationship
between SSCD and externalizing problem behavior. Do these
cognitions affect behavior or does behavior affect cognitions, or is
there a bidirectional relationship? Theoretically (Barriga, Morrison et
al., 2001), moral cognitions drive and sustain behavior, but
surprisingly little research has been carried out using the HIT-Q or
similar questionnaires to address this question. Barriga, Morrison et al.
(2001) proposed a model for the relationships between moral
cognitions and externalizing problem behavior. Using cross-sectional
data of college students they proposed that the relationship between
moral reasoning and externalizing behavior is mediated by SSCD. They
also proposed that the relationship between moral identity and
externalizing behavior is partly mediated by SSCD. No relationship was found between moral reasoning and moral identity. The model presented by Barriga et al. (2001) is purely theoretical as the data are cross-sectional and confound mediation with causality. Other models are equally acceptable from a statistical point of view. For example, a model in which cognitive distortions is not the mediating (endogeneous) variable as in the model proposed by Barriga, Morrison et al. (2001), but the independent (exogeneous) variable would be statistically speaking equally acceptable. In Figures 12.1 and 12.2 we demonstrate these different types of relationships using a Dutch sample of young adolescents.

Figures 12.1 & 12.2 about here

According to the findings presented in Figure 12.1 the amount of explained variance in externalizing behavior is predominantly determined by SSCD. Moral reasoning and moral identity add little predictive power to SSCD in explaining externalizing behavior in
young adolescents. This finding was confirmed in a multitrait-multimethod (MTMM) study using production and recognition measures for each of the variables involved in the model presented in Figure 1. The predictive power of the moral cognitions in externalizing behavior increased substantially, but this effect was exclusively realized by SSCD (Brugman, 2011).

We now turn to longitudinal and experimental studies needed to find out which model presented above receives empirical support.

1. Findings from longitudinal studies on the relationship between SSCD and externalizing problem behavior.

Van der Velden et al. (2010a) report a four months longitudinal study on the relationships between moral cognitions (including SSCD) and self-reported externalizing behavior in young adolescents. They report a bidirectional relationship between SSCD and externalizing behavior in girls, but an unidirectional relationship in boys – with externalizing behavior influencing SSCD instead of vice versa as would be expected based on Barriga’s model. Wildeboer (2011)
investigated the relationships between SSCD and self-reported externalizing problem behavior over a one year period in a clinical group of children and a matched normal group of children during middle childhood. Her findings show that over time moral cognitions are much more influenced by (externalizing) behavior than vice versa. To summarize, non-cognitive learning and developmental processes set the stage for cognitive learning and developmental processes, as was already suggested by Piaget (1932).

These findings refer to children and young adolescents. It seems likely that older adolescents (e.g. the college students studied by Barriga, Morrison et al., 2001) who function at a higher, more mature moral-cognitive level than (at risk) young and mid-adolescents, the relationships between moral cognitions (including SSCD) and externalizing behavior become more bi-directional. The bi-directional relationship between SSCD and externalizing behavior in girls, reported by Van der Velden et al. (2010a), fits in this pattern. In sum, the model proposed by Barriga et al. (2001) with moral cognitions influencing externalizing behavior does not seem to present an
adequate description of the developmental relationships between SSCD and externalizing problem behavior in children and adolescents.

2. Findings from developmental and educational models contrasted

We propose to make a distinction between a developmental model and an educational model on the relationship between moral cognitions and externalizing behavior. The longitudinal relationships reported above characterize natural development. From a developmental viewpoint, it seems plausible that behavior directs cognitions, particularly during childhood and young adolescence into mid-adolescence. The peer group context, imitation and identification processes shape behavior during these developmental phases and cognitions may reflect primarily the outcomes of these processes. In late adolescence directions become bidirectional (cf. Raaijmakers, Engels & Van Hoof, 2005).

Educational models on the other hand are based on the assumption that reducing the prevalence of SSCD in juvenile delinquents or in adolescents at risk, is an effective strategy for the
prevention and reduction of externalizing behavior. It seems that reversing the relationship, with cognitions influencing behavior, is possible when behavior strategies are sufficiently trained and have become automatized. Cognitions then support and direct the newly learned behaviors. Cognitive-behavioral programs have been shown to be relatively successful in reducing externalizing behavior (Hollin & Palmer, 2009; Landenberg & Lipsey, 2005; Wilson & Lipsey, 2007). Two cognitive behavior training programs to reduce externalizing behavior, Aggression Replacement Training (ART) and EQUIP, aim at cognitive restructuring which would result in a reduction of the prevalence of SSCD and a subsequent reduction of externalizing behavior. Both programs contain ten lessons for respectively anger management and SSCD, social skills, and social decision-making (i.e., moral education).

When the educational model is based on a different direction of the relationship between moral cognitions and externalizing behavior than the developmental model, the educational model needs the additional assumption that the direction of relationships between moral
cognitions and externalizing behavior can be reversed by educational interventions. For example, although in the developmental model externalizing behavior leads to moral cognitions, in the educational model a decrease of moral cognitions can lead to a decrease of externalizing behavior. Of course, in daily reality a cognitive based learning model has to compete with other learning models. The tension between these different types of learning models shows that one must be aware of possible iatrogenic effects when using peergroup cognitive behavioral programs that may also stimulate unconscious imitation processes that are related to different goals. It is well-known that unsupervised peergroup programs for antisocial youth may actually strengthen externalizing behavior instead of reducing it (e.g., Poulin, Dishion, & Burraston, 2001).

3. Cognitive behavioral programs to reduce SSCD

The EQUIPping Youth to Help One Another training program (EQUIP) is a cognitive-behavioral program that is used at various (juvenile) correctional facilities and institutions in North America,
Europe, and Australia. In the Netherlands, EQUIP is implemented nation-wide in all juvenile correctional facilities as part of a basic educational method (Dienst Justitiële Inrichtingen, 2010). EQUIP combines a peer-helping approach with cognitive behavior therapy and aims to reduce externalizing behavior by decreasing individuals’ SSCD, improving their social skills and stimulating their moral development.

The program aims to motivate and teach individuals to help each other in a group context (6-8 individuals) with a positive peer culture (Gibbs, Potter, & Goldstein, 1995; Potter, Gibbs & Goldstein, 2001).

Two versions of the program are available: an intervention program for incarcerated delinquent youths (Gibbs et al., 1995) and a prevention program for youths with externalizing problem behavior (DiBiase, Gibbs, & Potter, 2005). Both versions of the program involve thirty equipping meetings. The equipping meetings are structured around the following three components: anger management, social skills, and social decision-making (i.e., moral education). Each component is addressed in ten meetings. For each meeting a lesson plan is available. The regular implementation of the intervention
version of the EQUIP program requires each week in five days three equipping meetings and three so-called mutual help meetings. The three equipping meetings are implemented in two days, with the social skills training session split over these two days. In addition one day an anger management lesson is given, and the other day a social decision-making lesson.

The delinquent youths receive the equipping meetings in addition to the mutual help meetings. The program starts with the mutual help meetings to motivate the youngsters to help each other (i.e. the peer helping component). Subsequently, when the positive peergroup culture is developing, the participants learn the helping skills at the equipping meetings which they practice at the mutual help meetings by helping one of the participants to solve his or her problems. By helping the other person, they are also helping themselves, a process called retroflexive reformation.

Only the intervention version of the EQUIP program for delinquent youth contains the mutual help meetings; the prevention version is solely based on the equipping meetings. Consequently, the
intervention version is more intensive than the prevention version for youth with externalizing problem behaviour. Also, the transgressions that are the focus of the discussion in the equipping lessons are less severe in the prevention version than in the intervention version.

Another important difference exists between the context of the group versus that of the classroom.

4. Experimental studies: Effects of the EQUIP program on the reduction of SSCD and externalizing behavior

Recent studies in the Netherlands reported positive effects of a 3-months participation in the EQUIP program on SSCD, social information processing and attitudes towards delinquent behavior in incarcerated male adolescents in the Netherlands (Brugman & Bink, 2010; Nas, Brugman & Koops, 2005). No effects of EQUIP were found on moral competence, social skills or recidivism. The EQUIP program was not completely implemented as each week only three meetings were organized: two or three equipping meetings and occasionally one mutual help meeting.
Although the reduction in SSCD of juvenile delinquents participating in the EQUIP program did not result in a reduction of the speed of recidivism, number of delinquent acts or seriousness of delinquent acts, a relationship between self-centeredness at posttest measurement and speed of recidivism was found in the group of EQUIP participants. In this group the strongest effect on SSCD was found in the reduction of self-centeredness. In this group, level of self-centeredness at the posttest measurement – in most cases administered just before release – predicted speed of recidivism. The average number of days before the youngsters were arrested with a high prevalence of self-centeredness was 313 days, while the average number of days for youngsters with a low level of self-centeredness was 717 days (Brugman & Bink, 2011). Note that in this case self-centeredness is a precursor of delinquency.

Van der Velden, Brugman, Boom, and Koops (2010b) investigated the effects of the preventive version of the EQUIP program (DiBiase, Gibbs, Potter & Spring, 2005) in at risk youths in secondary schools. In the research participated 764 students of nine secondary schools. Effects found were comparable by those reported by
Nas et al. (2005), but less strong, making a behavioral change less likely.

The effects of the EQUIP program reported in studies on incarcerated delinquents in the USA are stronger on behavioral change. Leeman, Gibbs and Fuller (1993) showed large effects on recidivism. Note however that even after 20 years these findings still have not been replicated. Liau et al. (2004) reported behavioral change in females but not in males participating in the EQUIP program.

4. Discussion

The conclusions of these studies are the following. First, the empirical relationship between moral cognitions and externalizing behavior is confirmed. Incarcerated juvenile delinquents and adolescents reporting delinquent behavior show higher levels of SSCD than youngsters not reporting delinquent behavior. Findings from a MTMM study even show that the strength of the relationship between moral cognitions and externalizing problem behavior is underestimated in the literature.
Second, the explanatory power of self-serving cognitive distortions in externalizing problem behavior was not substantially improved by adding other moral cognitions like e.g. moral reasoning. In the original study by Barriga, Morrison et al. (2001) the relationship between moral competence and antisocial behavior was no longer statistically significant. In our cross-sectional study there was a statistical significant relationship between moral competence and externalizing behavior but the added amount of explained variance in externalizing behavior was low. No direct relationship was found between moral identity and externalizing behavior. Presumably this relationship strengthens in a more mature age group.

Third, no longitudinal relationship was found between moral reasoning or moral evaluation and externalizing behavior. This might be due in part to the measure used for assessing moral competence, as Raaymakers et al. (2006) found a low bidirectional relationship between moral reasoning and externalizing behavior in their longitudinal study. Note, however, that also that study was carried out with older adolescents than participated in the current studies.
Fourth, findings from longitudinal research showed that externalizing problem behavior more strongly influenced self-serving cognitive distortions than vice versa. This finding as well as the finding reported above do not support the theoretical assumption of an unidirectional influence from moral cognition to behavior in children and adolescents. Externalizing behavior more strongly influences SSCD than vice versa.

Fifth, findings from experimental research using the EQUIP program in juvenile delinquents and young adolescents at risk showed a decrease in self-serving cognitive distortions, but no improvement in moral reasoning. In addition, as early as 1985 Kohlberg himself concluded that programs were successful in improving (non-delinquent) adolescents’ level of moral reasoning, but not in changing adolescents’ behavior. The low level of moral reasoning found in incarcerated delinquents (Stams et al., 2006) has been interpreted as a developmental delay; this suggests that an improvement in level of moral reasoning is necessary to change behavior. But when no improvement in juvenile delinquents’ moral reasoning is found after
the moral reasoning training in the EQUIP program, and the relationship between moral reasoning and delinquency is fully mediated by SSCD, the inclusion of the moral reasoning component in the prevention and intervention EQUIP program is questionable from an empirical point of view. Happily, besides moral reasoning the moral decision component of EQUIP includes also moral value evaluation, i.e. the importance attached to moral values. Moral value evaluation is negatively linked to externalizing problem behavior (Beerthuizen, Brugman, & Basinger, 2013). Substantial stress in the moral component of the EQUIP program is paid to making the right decision. When the participants have ‘found’ the right decision, the reasons for the right discussion are stressed. By learning to make the right decision participants learn implicitly to attach more importance to moral values. In a recent study it was found that the EQUIP program helps to prevent a further decrease in moral values evaluation in incarcerated juvenile delinquents (Helmond, Overbeek & Brugman, 2012). The problem here is that moral value evaluation is also fully mediated by SSCD in its relationship to externalizing behavior.
Sixth, the level of self-serving cognitive distortions of youngsters having participated in the EQUIP program measured at the time of release from a youth detention facility predicted speed of recidivism. The effects of EQUIP on SSCD, its predictive power of speed of recidivism and the nearly exclusive relationship between SSCD and externalizing behavior makes one wonder about the composition of the lessons of the EQUIP program. No empirical basis is available concerning the total number of lessons in the program, nor concerning the number of lessons for each component. Given the importance of SSCD on externalizing problem behavior as compared to moral reasoning or moral identity one would suggest to increase the number of lessons to strengthen the reduction of SSCD.

All these findings support the validity of the measurement of SSCD using the HIT Questionnaire. An important point here seems to be that the relationships between SSCD and externalizing behavior are different in a developmental model than in an educational model. While in the developmental model externalizing behavior precede SSCD (at least in males), in an educational model SSCD precede
recidivism (in males). It seems possible by intervention to redirect the relationship between SSCD and externalizing behavior. It may be important to take notice of this contrast, as it seems to imply that strengthening cognitive skills improves behavioral control. SSCD influencing externalizing behavior presumably characterizes a more mature model than externalizing behavior influencing SSCD. It includes also the warning that on return to the original social environment after release, the developmental model may take over the educational model (Hoffman, 2000).
References


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Figure captions

Figure 1: Partial replication of the path analytic model of Barriga, Morrison et al. (2001b) of moral cognition and antisocial behavior in young adolescents ($N = 163$); significant relationships only. $\chi^2 (1) = .90, p = .34, CFI = 1.00, \text{RMSEA} = 0.00$

Figure 2: Alternative path analytic model of moral cognition and antisocial behavior in young adolescents ($N = 163$); significant relationships only. $\chi^2 (2) = 1.49, p = .47, CFI = 1.00, \text{RMSEA} = 0.00$
Figure 1

- Moral reasoning
  - Antisocial behavior
    - R² = .38
  - Moral identity
    - R² = .02
  - Cognitive distortion
    - R² = .17

Correlations:
- Moral reasoning to Moral identity: -.27
- Moral reasoning to Cognitive distortion: .15
- Moral identity to Antisocial behavior: -.15
- Antisocial behavior to Cognitive distortion: .55
Figure 2

Moral reasoning

Cognitive distortion

Moral identity

Antisocial behavior

$R^2 = .13$

-.18

$R^2 = .10$

-.32

-.21

.60