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Developmental changes in coping: Situational and methodological influences

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Abstract
Previous studies on the development of coping have shown rather inconsistent findings regarding the developmental trajectories for different coping dimensions. The aim of this study is to search for possible influences that might explain these inconsistencies. The analysis focuses on methodological influences (longitudinal vs. cross-sectional assessments) and situational influences. Two samples of children were traced longitudinally with yearly assessments from grade 2 to 5 (sample 1, \(N = 432\)) and from grade 4 to 7 (sample 2, \(N = 366\)). A third sample (\(N = 849\)) was added with cross-sectional assessments from grade 2 to 7. The assessed coping dimensions were related to (a) problem solving, (b) seeking social support, (c) palliative coping, (d) externalizing emotional coping, and (e) avoidant coping. The use of the coping strategies had to be assessed for six stress-evoking situations. The results show only small differences between the longitudinal and the cross-sectional coping assessments. There are, however, clear situational influences on the choice of the coping strategies and also on the resulting developmental trajectories.

Keywords: Coping dimensions, coping development, situational influences on coping, longitudinal and cross-sectional assessments

Introduction
Coping is related to efforts to solve personal and interpersonal problems, and to master stress experiences. There are, however, several ways to cope with stress-evoking events and, as a consequence, there are several classification systems. One of the most popular is the differentiation between problem-focused and emotion-focused coping (Lazarus & Folkman, 1984). The aim of problem-focused coping is to control and change stress-evoking situational or personal characteristics, while emotion-focused coping is related to controlling and changing the psychological and somatic effects of stress experiences. Other classification systems distinguish between approach and avoidance strategies (Roth & Cohen, 1986) or between primary and secondary control strategies (Rothbaum, Weisz, & Snyder, 1982). A common element in most classification systems is the basic distinction between direct and indirect coping strategies. Direct coping strategies focus on the stress-evoking event, whereas indirect coping strategies do not focus on the stress-evoking event, but on other ways to cope with the stress-evoking situation (e.g. focusing on emotional reactions, problem avoidance or cognitive restructuring). In fact, most of the more
differentiated classification systems contain this basic structure. An example is a classification system by Causey and Dubow (1992), who distinguish between approach and avoidance strategies. They see seeking social support and problem solving as approach strategies (directly related to the stress-evoking event), and distancing, internalizing and externalizing emotional coping as avoidance strategies (indirectly related to the stress-evoking event).

Although research on coping focused originally on adults, there is increasing awareness that children and adolescents also experience stress-evoking events. To understand the specific coping problems of children and adolescents, it appears necessary to turn to the developmental changes in the use of coping strategies. Based on different classification systems, there are several studies which try to analyze developmental changes in coping. Causey and Dubow (1992), who introduced the five-dimensional structure of coping mentioned above, found a clear hierarchy in the use of the coping dimensions, with problem solving being used most often, followed by seeking social support, internalizing, distancing and externalizing (see also Eisenberg, Fabes, Bernzweig, Karbon, Poulis, & Hanish, 1993). However, Causey and Dubow (1992) found no age-related changes in their cross-sectional study with children aged 9 to 11. This failure could have been due to the small age range included in this study.

There are, however, several other studies showing age-related changes in the coping behaviour of children and adolescents. For example, Altshuler and Ruble (1989) and Compas, Malarne, and Fondacaro (1988) found age-related increases in emotion regulating coping children aged 5 to 12, respectively, 10 to 14 years (see also Compas, Banez, Malarne, & Worsham, 1991; Wertlieb, Weigel, & Feldstein, 1987). Age-related increases were also found for cognitive restructuring for children and adolescents aged 7 to 18 years (Ebata & Moos, 1994; see also Hoffner, 1993). Band and Weisz (1988), who relied on the distinction between primary and secondary control strategies, found an increase in children and adolescents aged 9 to 12 with regard to secondary control strategies, which involve modifying the self and may comprise strategies, such as emotion regulation or cognitive restructuring (see also Marriage & Cummins, 2004).

On the other hand, there are also several inconsistencies regarding developmental changes in coping. With regard to cognitive coping, Glyshaw, Cohen, and Towbes (1989), Spirito, Stark, Grace, and Stamoullis (1990), and Hampel and Petermann (2005) report decreases for children and adolescents ranging from 9 to 16 years, which is in contrast to the studies mentioned above indicating increases in cognitive restructuring. As another example of inconsistencies, Band and Weisz (1988) report an increase in direct coping/primary control over age (9–12 years) which can be explained by an increase of the controllability of events with increasing age (see also Fields & Prinz, 1987; Seiffge-Krenke, 1993, 2000). Spirito et al. (1991), on the other hand, show a decrease of direct, problem solving strategies for the same age range (for older children, see also Compas, Malarne, & Fondacaro, 1988; Glyshaw, Cohen, & Towbes, 1989), while Hampel and Petermann (2005) report no age-related effects. In general, there are many inconsistencies regarding the developmental trajectories in coping and the question arises as to how these inconsistencies emerge.

There are several possibilities to explain this. It is, for example, possible that the age ranges are not comparable or that the studies focus on samples with different socio-economic backgrounds. The present study focuses on two possible explanations for inconsistencies between the results of different studies. In the main, the question is whether (a) the kind of research design (longitudinal vs. cross-sectional) and/or the kind of situation...
used for the coping assessments influences the developmental trajectories for different coping strategies.

One could expect that the choice of research design has an influence because the repeated measurements involved in longitudinal studies may lead to changes in the reports of children and adolescents. If, for example, the questionnaire items induce the participants to reflect on their coping strategies and their previous behavior, this could lead to behavior changes. As a consequence, the participant’s reports in later assessments will differ from the previous assessments. This means that there could be a difference between longitudinal and cross-sectional assessments, possibly explaining the emergence of different results. For example, Ebata and Moos (1994) report an increase of approach coping (which includes problem solving) in young adolescents in a longitudinal study (with one re-measurement after one year). In a cross-sectional study by Roecker, Dubow, and Donaldson (1996), the problem solving scores are highest for younger children and decrease over age. This is corroborated by a second cross-sectional study by Band and Weisz (1988), who also reported a decrease of primary control over age. Thus, the difference could result from the use of different methodological approaches (longitudinal vs. cross-sectional assessments).

Another explanation for obtaining inconsistent results can be seen in the situational dependence of coping. It is, for example, widely recognized that direct problem-focused coping is appropriate mainly in controllable situations which permit changing the stress evoking event, whereas indirect coping strategies may be more appropriate in uncontrollable situations. This is empirically supported by a Band and Weisz (1988) study, which showed that academic stressors (controllable) evoke high levels of primary coping, while medical stressors (uncontrollable) evoke high levels of secondary coping. They suggest that coping should be examined, not trait-like, but highly dependent on the perceived demands of a specific situation. As another example, seeking social support is only appropriate if people, who can be supportive, are available. Thus, it depends on the specific situation as to whether a coping strategy is appropriate or not. If, however, the situation is unspecified (as in many coping questionnaires), the focus of the participants in answering the questionnaire items is unclear. Moreover, if situations are specified, they may not be comparable, and, thus, lead to different results. This effect was, for example, shown in the study of Compas, Malcarne, and Fondacaro (1988), who found a decrease of seeking social support over age for social stressors, but no developmental changes when the focus was on school-related stressors (see also Hampel & Petermann, 2005). Roecker et al. (1996) provided three different interpersonal stressors and reported a significant interaction between coping and situation (family vs. school and peer-related stressors) with regard to the strategy internalizing/worrying supporting the situational dependence of coping. Furthermore, Griffith, Dubow, and Ippolito (2000) found increases of approach coping, especially in relation to family and peer stressors, but not to school stressors over grade 7 to 12. However, it should be noted that cross-situational patterns of coping were rarely found to be remarkably inconsistent (Donaldson, Prinstein, Danovsky, & Spirito, 2000).

An important factor complicating the comparability of different studies is the usage of different instruments. Similarly labeled coping strategies may be characterized by important differences with regard to their operationalizations. For example, Donaldson et al. (2000) differentiate problem-focused coping in problem solving and meta-cognitive strategies (e.g. cognitive restructuring), whereas Compas et al. (1988) operationalize problem-focused coping basically by means of non-cognitive problem solving behavior (problems with respect to different conceptualizations of avoidant coping strategies are reported by Fields & Prinz, 1997).
The aim of this study is to identify possible influences on developmental changes in the reports of children and adolescents regarding their use of coping strategies. The focus is (a) on differences between longitudinal and cross-sectional data-collections, and (b) on differences between the reports for different stress-evoking situations. The usage of the same instruments in comparable samples provides the opportunity to evaluate these effects without confoundations with different operationalizations. As it is possible that the results deviate for different age groups, the coping development in two age ranges (from grade 2 to 5 and from grade 4 to 7) will be analyzed. This means that two longitudinal cohorts, starting at grade 2 and 4, will be traced until they are in grade 5 and grade 7, respectively. The developmental results for these cohorts are compared with the results for a comparable cross-sectional sample of grades 2 to 7. The included coping strategies are closely related to the coping categories distinguished by Causey and Dubow (1992). More specifically, the included strategies are problem solving, seeking social support, palliative coping, externalizing emotional coping and avoidant coping.

**Method**

**Participants**

Three samples of children participated in this study. Sample 1 consisted of 432 second-graders (202 girls and 230 boys) from 15 German elementary schools, with a mean age of 7.9 years. This sample was traced longitudinally and started when the children were second graders. The children were reassessed one, two and three years later, with 95.1% still participating in the assessment after one year (in grade 3), 88.4% after two years (in grade 4), and 80.8% after three years (in grade 5). Sample 2 was also traced longitudinally and consisted of 366 fourth-graders (202 girls and 164 boys). The initial assessments took place when the children were in grade 4, and the assessments were repeated when the children were in grade 5, 6 and 7 (with 96.7%, 92.3% and 82% of the original sample). In addition, cross-sectional data were collected in sample 3. This sample consisted of 849 children (435 girls and 414 boys) of grades 2 to 7 (with 118 children in grade 2, 114 in grade 3, 122 in grade 4, 156 in grade 5, 161 in grade 6, and 178 in grade 7). The cross-sectional data were collected simultaneously with the final assessments in the longitudinal samples. The design of the study is shown in Figure 1. Regarding the longitudinal samples, it should be noted
that there was no systematic drop-out, as there were no differences between the initial assessments of the children who had dropped out and those still participating. The longitudinal and the cross-sectional data were collected in comparable schools of the same region to secure comparable samples. In all samples, the participation of the children in the study required the permission of their parents. All children were Caucasians from lower to upper middle-class socio-economic backgrounds.

Assessments

A questionnaire was used to assess the children’s preferred coping behaviour in different situations (Klein-Hessling & Lohaus, 2002; Klein-Hessling, Lohaus, & Ball, 2005). The questionnaire consisted of six situations for which the assessment of 15 coping items was required. The six situations represented a range of situations which differed with respect to the dimensions controllability and the existence vs. non-existence of social support. Moreover, the situations covered a broad range of stressors including academic and non-academic stressors. The following situations were included, with short descriptions for the children:

a. Sitting alone at the breakfast table in the morning before taking a hard test (uncontrollable academic stressor with social support difficult to access).
b. Being unsatisfied with personal competencies in specific areas and having the desire to improve upon these competencies (controllable academic stressor with accessible social support).
c. Having to take a hard test the day after tomorrow and hoping to get a good grade (controllable academic stressor with accessible social support).
d. Waiting at the dentist for treatment and expecting it to be painful (uncontrollable physical stressor with social support difficult to access).
e. Being alone on a road and meeting a group of drunken people (uncontrollable physical stressor with social support difficult to access).
f. Having been unwell for several weeks, knowing that several topics have been missed and feeling that support is needed to catch up (controllable academic stressor with accessible social support).

For each of these situations, 15 coping items had to be assessed. In Figure 2, the 15 coping items and their assignment to the five coping dimensions problem solving, seeking social support, palliative coping, externalizing emotional coping, and avoidant coping are summarized in a model used for the confirmatory factor analyses (CFA) reported below. The classification of the coping dimensions is closely related to the classification system of Causey and Dubow (1992). Each of the five coping dimensions was addressed by three coping items which were selected from a broader pool of items on the basis of a previous pilot study. For each of the six situations, the children had to assess for the set of 15 coping items whether they would use (1) or would not use (0) the described behaviour strategy. For the data analyses, total scores were calculated for the five coping dimensions (for each situation separately and also across situations). The internal consistencies for the five coping scales were between $\alpha = .67$ and $.81$ for problem solving, between $\alpha = .82$ and $.93$ for seeking social support, between $\alpha = .85$ and $.92$ for palliative coping, between $\alpha = .75$ and $.89$ for externalizing coping, and between $\alpha = .73$ and $.85$ for avoidant coping with no systematic trends over the times of measurement. The one-year stabilities of the coping scales across time ranged between $r = .28$ and $.53$ for problem solving, between $r = .44$
Problem solving

Seeking social support

Palliative coping

Externalizing emotional coping

Avoidant coping

- I take the matter into my own hands
- I start to tackle the problem
- I try extra hard
- I let someone comfort me
- I ask someone to help me with the problem
- I ask someone for advice on how to solve the problem
- I think of something nice
- I try to calm down
- I do something to relax
- I take out my annoyance on somebody else
- I throw a wobbly
- I swear under my breath
- I try to avoid the problem
- I get out of the way
- I try to shirk

Figure 2. Model of 15 coping items related to five latent coping strategies used for confirmatory factor analysis.
and .63 for seeking social support, between \( r = .43 \) and .65 for palliative coping, between
\( r = .30 \) and .58 for externalizing coping, and between \( r = .40 \) and .60 for avoidant coping.
The moderate stabilities indicate both (a) inter-individual differences in intra-individual
developments within the coping strategies, and (b) substantial relationships between
previous and later assessments (cf. Ebata & Moos, 1994).

**Procedure**

The assessments took place between April and June each year between 2002 and 2005,
when the children were in grades 2 to 5 (sample 1), and in grades 4 to 7 (sample 2),
respectively. The cross-sectional data of sample 3 were collected between April and June
2005. The data were collected by 12 trained graduate students. The children received their
questionnaires during school hours and filled them in small groups of three to five children,
supported by one of the graduate students in case the children had problems understanding
the items.

**Statistical Analyses**

The comparison of the longitudinal and cross-sectional assessments are related to (a)
comparisons of the variable structure, i.e. testing structural congruence, and (b)
comparisons of the developmental trajectories, i.e. testing congruence regarding levels
and slopes. For the former analyses, the inter-correlations and the results of CFA (using
AMOS 6.0) are reported. The latter analyses mainly focus on analyses of variance and
\( t \)-tests for independent samples. The analysis of situational influences focuses again on
analyses of variance. Except for the CFA, all analyses were conducted using SPSS 12.0.

**Results**

**Comparison of Longitudinal and Cross-Sectional Data: Structural Relationships**

Before the developmental trajectories of the coping dimensions for longitudinal and cross-
sectional data are analyzed, the inter-relations between the coping variables for different age
groups are reported. Table I shows the inter-correlations of the coping variables at different
grades for longitudinal and cross-sectional data. The sizes of the intercorrelations are, in
most cases, fairly comparable. To analyze if there are systematic differences between the
longitudinal and cross-sectional assessments, the correlations from different samples were
tested for significant differences. Due to the number of tests, the critical value was adjusted
to \( \alpha = .001 \). Using this criterion, three of the 80 differences proved to be significant. Thus,
the correlational patterns do indicate predominantly structural congruence between the
longitudinal and cross-sectional data. Significant differences were found for the correlations
between problem solving and seeking social support (\( z = 3.66, p < .001 \)) at grade 4,
between problem solving and palliative coping (\( z = 4.00, p < .001 \)), as well as externalizing
emotional coping (\( z = 3.70, p < .001 \)) at grade 5. These discrepancies are marked by shaded
cells in Table I.

The structural congruence between the longitudinal and cross-sectional assessments was
corroborated by CFA. The basic assumptions for these analyses are (a) that a five factor
solution (with problem solving, seeking social support, palliative coping, externalizing
emotional coping and avoidant coping) can be replicated in all samples from grades 2 to 7,
and (b) that the covariances between the five dimensions are invariant between the
Table I. Intercorrelation of the coping strategies in grades 2 to 5 in two longitudinal samples (1 and 2) and a cross-sectional sample 3 (the shaded areas indicate significant differences between the correlations).

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longitudinal and the cross-sectional sample for each grade. To test this model (see Figure 2) equality constraints for the covariances of the coping dimensions between longitudinal and cross-sectional samples were specified for each of the eight analyses to be computed (four for the younger and four for the older longitudinal sample). Four of the eight $\chi^2$ difference value statistics proved to be significant, but both model-fit statistics, i.e. the Comparative Fit Index (CFI) and the root mean square errors of approximation (RMSEA) of the constraint model range between CFI = .88 and = .93, and between RMSEA = .06 and = .04, respectively. Although some values are somewhat critical, they are of sufficient size (Hu & Bentler, 1999) to indicate structural correspondence between the longitudinal and cross-sectional assessments for all grades. The significant $\chi^2$ statistics presumably result because of the large sample sizes.

Comparison of Longitudinal and Cross-Sectional Data: Developmental Trajectories

The analyses of the developmental trajectories are based on four multivariate analyses of variance. In the case of the two longitudinal samples, two multivariate analyses of variance with repeated measurements (MANOVA) were calculated, with grade and situation as within-subjects factors, and gender as between-subjects factor. The MANOVAs are related to grades 2 to 5 and 4 to 7, respectively. In the case of the two cross-sectional samples, the MANOVAs were calculated with situation as within-subjects factor and both grade and gender as between-subjects factors. To be comparable with the longitudinal analyses, two MANOVAs were calculated for grades 2 to 5 and 4 to 7, respectively. This section reports on the general developmental trends across situations, while the developmental trends within situations are reported below. Again, due to the high number of tests, it was necessary to adjust alpha leading to $\alpha = .001$ as critical value. The results of the MANOVAs show clear gender effects for the longitudinal samples ($F(5,342) = 15.41, p < .001, \eta^2 = .184$ for grades 2 to 5, and $F(5,294) = 8.18, p < .001, \eta^2 = .122$ for grades 4 to 7) as well as for the cross-sectional samples ($F(5,497) = 4.55, p < .001, \eta^2 = .044$ for grades 2 to 5 and $F(5,605) = 7.13, p < .001, \eta^2 = .056$ for grades 4 to 7). The subsequent univariate statistics indicate that girls consistently show significantly higher preferences for seeking social support and palliative coping. Limited to the younger samples, boys additionally report significantly higher preferences for externalizing emotional coping. However, there are only few interactions of gender with grade or situation. Moreover, in all cases of significant interactions, the effect size is below $\eta^2 = .01$. Thus, interactions with gender are negligible, and are not considered in the following sections.

The developmental trajectories for the longitudinal and cross-sectional coping data are shown in Figure 3. To enhance the readability of the diagram, the overlapping assessments of samples 1 and 2 at grades 4 and 5 were combined for these graphs. As Figure 3 shows, the patterns are very similar for the longitudinal and cross-sectional assessments. The results of analyses of variance show significant multivariate grade effects for both longitudinal samples ($F(15,3108) = 17.43, p < .001, \eta^2 = .078$ for grades 2 to 5, and $F(15,2676) = 13.04, p < .001, \eta^2 = .068$ for grades 4 to 7). In the case of the cross-sectional samples, the results of the multivariate analysis of variance again indicated significant grade effects for both sub-samples ($F(15,1497) = 6.68, p < .001, \eta^2 = .063$ for grades 2 to 5 and $F(15,1833) = 4.97, p < .001, \eta^2 = .039$ for grades 4 to 7). Table II contrasts the univariate effects for the coping strategies in the longitudinal and cross-sectional assessments. For the longitudinal as well as for the cross-sectional assessments in grade 2 to 5 negative linear trends emerge for externalizing and avoidant coping and no significant linear trends for seeking social support and palliative coping. For problem
solving, the linear trend is positive in the longitudinal sample, whereas there is no significant trend in the cross-sectional data. Regarding the assessments in grades 4 to 7, in both compared samples no linear trend shows up for externalizing coping, while seeking social support and palliative coping decrease from grade 4 to 7. For problem solving, there is a negative linear trend in the cross-sectional, but no linear trend in the longitudinal sample. For avoidant coping, the trend is negative in the longitudinal sample, but there is no linear trend in the cross-sectional sample. Although there are some exceptions, the general trend is similar for the longitudinal and cross-sectional data, as can be seen from Figure 3.
In order to analyze more directly whether there are systematic differences between the longitudinal and cross-sectional assessments, \(t\)-tests were calculated for each time of measurement. For the analyses of the overlapping assessments of the longitudinal samples 1 and 2 at grades 4 and 5, a random sample \((N_1 = 89\) from sample 1 and \(N_2 = 89\) from sample 2) was constructed to avoid differences in sample sizes. The calculations are based on 30 \(t\)-tests for the five coping strategies, each with six measurements at grades 2 to 7. Due to the high number of \(t\)-tests, it was necessary to adjust alpha using the Bonferroni-correction, which leads to \(\alpha / 30 = .002\) as critical value. There are four significant differences between the longitudinal and cross-sectional assessments. They are related to problem solving in grade 5 \((t = 4.83, df = 316, p < .002)\), in grade 6 \((t = 6.04, df = 502, p < .001)\) and in grade 7 \((t = 8.08, df = 491, p < .001)\) and to avoidant coping in grade 7 \((t = 8.08, df = 491, p < .001)\). With the exception of avoidant coping in grade 7, all differences are related to higher scores in the longitudinal assessments. There are no significant differences in grades 2 to 4.

It should be noted, however, that there are also significant differences between both longitudinal samples for the measurements at overlapping grades. There are two overlapping grades (grades 4 and 5) and five coping strategies which require 10 \(t\)-tests to be calculated. Again, adjusting alpha using the Bonferroni-correction leads to \(\alpha = .005\) as the critical value. The \(t\)-tests indicate two significant differences. In grade 4, sample 1 shows significantly higher values in seeking social support and avoidant coping than sample 2 \((t = 3.38, df = 768, p < .005\) and \(t = 2.86, df = 768, p < .005)\).

In general, there are only small differences between the results of the different longitudinal and cross-sectional samples, and the developmental trends are very similar in the different kinds of data.

### Comparisons of Coping in Different Situations

The second topic to be analyzed is related to the question of whether different developmental changes in coping can be shown if different situations are considered. Figure 4 shows the developmental patterns for the five coping strategies in different situations.
situations on the basis of the longitudinal data. Figure 5 shows the analogous patterns for the cross-sectional data. As both Figures 4 and 5 show, the choice of the coping strategies is clearly dependent on the situation and, in part, also on grade.

Each of the four analyses of variance shows clear situational influences on the choice of strategies, and on the developmental trajectories for coping. In the case of the longitudinal sample starting at grade 2, the main effect for situational influences is $F(25,8650) = 92.12$, $p < .001$, $\eta^2 = .210$, and the interaction between grade and situation is $F(75,25950) = 5.89$, $p < .001$, $\eta^2 = .017$. As the univariate analyses show, the interaction is significant for problem solving, seeking social support and avoidant coping (for more details see Figure 4). The respective multivariate results for the cross-sectional sample with grades 2 to 5, are $F(25,12525) = 79.39$, $p < .001$, $\eta^2 = .137$ (main effect), and $F(75,12525) = 5.93$, $p < .001$, $\eta^2 = .034$ (interaction), with significant univariate interactions again for problem solving, seeking social support, and avoidant coping. Additionally, there is a significant interaction for palliative coping (see Figure 5). The univariate main effects, as well as the
interaction effects, point out the importance of situational dependencies of coping preferences and their developments. For example, problem solving belongs to the most often chosen strategies with increases over grades in almost all situations, but its preference remains stable or decreases in the situations “waiting at the dentist” and “meeting drunken people”. Another example is avoidant coping, which generally decreases from grade 2 to 5, but it remains on a high level and is more often and more consistently chosen in the situation “meeting drunken people”. The patterns are again very similar for the longitudinal and cross-sectional data. In the case of the second longitudinal sample (grade 4 to 7) the multivariate results lead to $F(25,7450) = 105.96$, $p < .001$, $\eta^2 = .262$ and $F(75,22350) = 4.31$, $p < .001$, $\eta^2 = .014$, with significant univariate interactions for problem solving, seeking social support, palliative and avoidant coping (see Figure 4). The results for the respective second cross-sectional sample are $F(25,15225) = 133.80$, $p < .001$, $\eta^2 = .180$ and $F(75,15225) = 3.52$, $p < .001$, $\eta^2 = .017$, again with significant univariate interactions for problem solving, seeking social support, palliative and avoidant coping (see Figure 5).
As the analyses of variance show, there is a clear situational influence on the choice of coping strategy. Moreover, there is a comparably smaller, but still significant situational influence on the developmental trajectories shown for the coping strategies. The results are rather similar in the longitudinal and cross-sectional assessments.

Discussion

The comparisons between the longitudinal and cross-sectional data of this study did not indicate large differences between the methodological approaches. This is shown by the developmental trajectories, as well as by the structural analyses of the relations between the coping strategies. The model-fit statistics are somewhat critical with regard to the proposed criterions of RMSEA $<.06$ and $<.08$ in small samples, respectively (Hu & Bentler, 1999). However, it should be noted that, in particular, the RMSEA tends to reject acceptable models that are based on small sample sizes ($N < 250$). Regarding the development trajectories, differences emerge predominantly in the older age groups. There are, however, clear situational influences on the choice of the coping strategies, and also on the developmental trajectories shown for the coping strategies, although the latter effect is comparably smaller. Thus, the developmental trajectories shown by children and adolescents are probably quite independent of the kind of methodological approach (especially in the younger age groups), but may depend on the specific situation addressed in the assessments.

Although there are only small differences between the longitudinal and cross-sectional assessments, there is some evidence for the existence of serial effects in the longitudinal assessments. This is shown mainly by the comparisons between the measurements at grade 4 of the first longitudinal sample (the third assessment in this sample), and the measurements at grade 4 in the second longitudinal sample (the initial assessment in this sample). The two significant differences with higher values in seeking social support and avoidant coping in the first longitudinal sample indicate that there may be some serial effects. On the other hand, there are no significant differences to the grade 4 measurements in the cross-sectional sample. Thus, it may be that serial effects and peculiarities of the samples both contribute to these differences.

It is remarkable that the relational structure of the coping strategies remains reasonably stable over age. This was not only shown for the correlational structure, but also for the factorial structure of the coping variables. This result underlines that it is possible to differentiate several coping dimensions in the strategy choices of children and young adolescents in a range from grade 2 to 7. It corroborates the differentiation of at least five coping dimensions as originally introduced by Causey and Dubow (1992). The present study shows, by means of CFA, that the differentiation of five coping dimensions can be expanded to a much broader age range than in the original study by Causey and Dubow (children aged 9 to 11). On the other hand, Kravšek and Seiffge-Krenke (1996) showed different structures of coping in children and adolescents. They suggested a different factor solution for a younger sample (11- to 16-year-olds) than for an older sample (17- to 19-year-olds). The age range of their study is, however, higher than the age range included in the present study, and there may be additional developments in adolescence which may explain the need for an additional differentiation in the study by Kravšek and Seiffge-Krenke (1996).

Regarding the developmental trajectories, it is interesting to note that the developmental patterns in the younger age groups differ from those in the older age groups. This can
especially be shown for externalizing emotional coping, which shows decreases from grades 2 to 4 and increases from grades 5 to 7. An inverted trajectory can be shown for palliative coping. The patterns seem to be curvilinear and suggest that it may be useful to consider the age range when developmental changes are reported. This may also contribute to understanding inconsistencies between the results of different studies.

Situational influences on the choice of coping strategies have already been shown in previous studies. For example, Compas et al. (1988) showed that the developmental trajectories found for coping strategies were different for social and school-based events. The role of situational influences on the choice as well as on the developmental trajectories of coping strategies is underlined by the results of the present study. In particular, it is clear from the results that children choose their coping strategies depending on the specific situation that confronts them. They obviously recognize the characteristics of a situation, and adapt their behaviour in accordance with these characteristics. Similar effects were, for example, shown in a study by Griffith et al. (2000), who found an increase of avoidant coping in uncontrollable situations for adolescents aged 12 to 18, which also indicates situational influences. This underlines that the adolescents adapt their behaviour to the kind of situation. It is remarkable that even young children in grade 2 show these situational adaptations. Situational influences can also be shown for the developmental trajectories of coping. Thus, situational influences and a focus on different situations may contribute to the emergence of inconsistent results between different studies with regard to the developmental patterns of coping.

To summarize, the results of this study indicate that a focus on different age groups and different situations may contribute to the emergence of inconsistent results, but that the choice of a longitudinal vs. a cross-sectional design may be of less relevance in this respect. There may, however, still be additional influences that were not addressed in this study. In particular, sample characteristics can cause differences between the results of different studies. If, for example, the samples are from different social or ethnic backgrounds, it is possible that these differences are also reflected in the choice of coping strategies and their developmental trajectories. Although gender might be a variable of possible influence, the current results show that gender is related to differences in the use of the coping strategies, but that there are no relevant interactions with the kind of assessment (longitudinal vs. cross-sectional) and the kind of situation.

A possible limitation of this study may be seen in the choice of situations that were included. Although the included situations may not be representative in every respect, they were appropriate in indicating situational influences on coping assessments. The aim was mainly to show the possibility of such influences. Further studies are needed to analyze such influences more systematically for a more representative set of situations.

The results of the present study imply that the definition of the kind of situation has consequences for the results in coping research. The results do not only show that the kind of situation influences the choice of coping strategies, but also that the developmental trajectories for specific coping strategies may be different if they are based on different situations. An important consequence for developmental research on coping would be either to focus on specific situations and to limit the generalizability to these situations, or to rely on a set of situations that are representative of a broad range of typical everyday situations children and adolescents have to cope with. To know the kind of situation is obviously important to understand the results of specific studies on the development of coping.
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References


