Coping styles: Longitudinal development from ages 17 to 33 and associations with psychiatric disorders

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Abstract

Relationships of coping styles to maturation, sex, and psychiatric diagnoses are not well defined. Accordingly, we examined their development from late-adolescence into adulthood, and their associations with psychiatric disorders. We assessed coping styles in 970 subjects prospectively, at mean ages 17, 24, 29, and 33, using the Coping Inventory for Stressful Situations. Selected DSM-IV-TR lifetime psychiatric disorders were assessed at age 24. We found that reliance on adaptive task-oriented coping (TOC) increased sharply from ages 17 to 24, (effect size [ES]=0.94), and stabilized thereafter; less adaptive emotion-oriented coping (EOC) declined continuously over time. Men and women had similar TOC scores from ages 17 to 33, but women had moderately higher EOC scores at age 17 (ES=0.53). Greater reliance on EOC at age 24 was associated with more major depressive or anxiety disorders, adjusted for stressors and sex. Greater use of TOC at age 17 was associated with less risk for drug or alcohol abuse/dependence by age 24 after adjusting for sex and stressors. In conclusion, coping styles generally became more adaptive with maturation, though women used EOC more than men. Additionally, greater reliance on TOC in late-adolescence may reduce risks for substance use disorders.

1. Introduction

How one copes with inevitable life stresses contributes to psychological and physical well-being. Failure to cope with stress adaptively may lead to psychological problems and perhaps to psychiatric illnesses. Among the most robust dimensions identified in research on coping styles are: [a] task-oriented coping (TOC) or focusing on changing the stressful situation, [b] emotion-oriented coping (EOC) or prominent self-blame and negative emotional responses, and [c] avoidance coping or engaging in distracting activities in response to problems (McWilliams et al., 2003). Task-oriented coping is generally considered adaptive, and has been found to be associated with lower levels of current depression (Kendler et al., 1991; Windle and Windle, 1996; Johnsen et al., 1998; Rafnsson et al., 2006), anxiety (Kendler et al., 1991; Windle and Windle, 1996; Johnsen et al., 1998), post-traumatic symptoms (Johnsen et al., 2002), and alcohol abuse (Windle and Windle, 1996; Rafnsson et al., 2006). In contrast, emotion-oriented and avoidance-oriented coping styles generally appear to be maladaptive as both have been associated with more current depressive symptoms (Rosenberg et al., 1987; Windle and Windle, 1996; Rafnsson et al., 2006; Alim et al., 2008; Liber et al., 2008), alcohol abuse (Windle and Windle, 1996; Johnsen et al., 1998; Rafnsson et al., 2006), and post-traumatic symptoms (Bryant and Harvey, 1995; Alim et al., 2008). Studies of coping styles have provided valuable information, but with few exceptions (Kraaij et al., 2002) most are cross-sectional in design and consider current symptoms but not future risk for psychiatric disorders, leaving temporal sequencing or cause–effect relationships unclear (Christensen and Kessing, 2005). Moreover, there is little information on how coping styles develop with maturation.

To address gaps in research on coping, we examined the course of general coping styles over 16 years, from mean ages 17 to 33, in a community sample of 970 consenting subjects. We examined: [a] 16-year, sex-specific, development of coping styles from late-adolescence into adulthood (ages 17–33), and [b] relationships of coping styles assessed at ages 17 and 24, stress-loads, and sex to risk of selected lifetime psychiatric disorders assessed at age 24. Notably, the early 20s is part of the young adulthood phase of the...
lifespan that is associated with high rates of occurrence of the psychiatric disorders of interest to this report (Suvivaari et al., 2009; Copeland et al., 2011). We hypothesized that coping styles become more adaptive with age and that more adaptive coping is associated with a lower prevalence of psychiatric disorders in young adulthood. Incremental insights into developmental trajectories of coping styles and their relationship to psychiatric illnesses gained from studies such as this may inform efforts in prevention, potentially through early modification of coping styles, or through treatment with cognitive behavioral therapy.

2. Methods

2.1. Subject recruitment and assessment

Study data were collected within a large, longitudinal project (Lives Across Time) focused on risk and protective factors for mood, anxiety, and substance-use disorders from late-adolescence to adulthood (Windle and Wiesner, 2004). The project followed high school juniors and seniors recruited from three similar suburban public high schools in western New York state, as detailed previously (Windle and Wiesner, 2004). All students at the three high schools providing written, informed parental consent and informed, written assent were eligible to participate. The study protocol was reviewed and approved by the Institutional Review Board of the State University of New York at Buffalo. Participants were provided with an incentive of $10 for completing the 45-min adolescent survey and $40 for completing the personal interviews at each wave in young adulthood. At mean age 17, investigators administered surveys for participants to complete individually in groups of 40–50 in their high-school classrooms. At mean ages 24, 29, and 33, subjects were evaluated individually in person at their homes. Data collection was conducted by a well-trained research team, all of whom had at least 4 years of college education.

2.2. Coping styles

Coping styles were assessed at mean ages 17, 24, 29, and 33 years using the well-validated Endler and Parker Coping Inventory for Stressful Situations (CISS). The CISS is commonly used in coping research (Windle and Windle, 1996; McWilliams et al., 2003; Rafnsson et al., 2006) and measures task, emotion, and avoidance-oriented coping strategies as defined above (Endler et al., 1993; Endler and Parker, 1999). It consists of a total of 48 items, with 16 items for each of the three coping strategies. In this study, only its task- and emotion-oriented subscales were measured in young adulthood because items for avoidance-oriented coping appear to mix adaptive (e.g., seeking social contact) and maladaptive coping (e.g., abusing substances) (Campbell-Sills et al., 2006). Each item was rated by the subjects on a five-point Likert scale ranging from 1 (not at all) to 5 (very much), for how much the subject considers himself or herself to engage in a particular activity when a difficult, stressful, or upsetting situation is encountered. Higher total scores for each subscale reflect greater reliance on task-oriented or emotion-oriented coping. Possible score range for each coping subscale is 16–80.

Sample items for task-oriented coping (TOC) include: I think about how I have solved similar problems; I schedule my time better; for emotion-focused coping (EFC); I become preoccupied with ashes and pains; I become very tense. Internal reliability (Cronbach's α) for the two subscales used ranged from 0.88 to 0.92 across different samples; test-retest reliability (Pearson correlation r) over 6 weeks ranged from 0.51 to 0.73 (Endler and Parker, 1994). In the present sample, internal reliability was high for both task-oriented coping (α = 0.93) and emotion-focused coping (α = 0.89).

2.3. Major stressful events

We used a modified version of the Holmes and Rahe scale to ascertain major stressful life events (Holmes and Rahe, 1967). It considers 46 common stressful events, scored as present or absent (1 or 0), sampled from multiple age-appropriate domains, including: family status (e.g., parents or subjects separated or divorced), relationships (e.g., death of an immediate family member, problems with in-laws), work (e.g., disagreements with supervisors, conflicts with coworkers, being laid off), finance (heavy debts, interactions with bill collectors), legal problems (arrests, lawsuits), health related concerns (e.g., illness or injury), and others (e.g., being assaulted, property being vandalized). At each assessment, participants were asked to report whether or not any of the 46 defined stressful events had occurred in the preceding 12 months. Total scores (range 0–46) were considered estimates of "stress loads" for the past year for each assessment period.

2.4. Psychiatric diagnoses

Lifetime DSM-IV-TR Axis-I psychiatric disorders were evaluated by direct interview of each participant at mean ages 24 using the World Health Organization Composite International Diagnostic Interview (WHO-CIDI), which has established sensitivity and reliability (World Health Organization, 1997; Kessler et al., 2003, 2005). Research staff-members were trained until inter-rater agreement with expert CIDI trainers on clinical diagnoses exceeded 90%. Annual retesting on the CIDI was conducted to maintain reliable assessments. Specific DSM Axis I diagnoses assessed were major depressive disorder, anxiety disorders (generalized anxiety disorder, panic disorder, phobias, or social anxiety disorder), alcohol abuse or dependence, and drug abuse or dependence.

2.5. Data analysis

To assess whether coping styles changed with age, and to compare coping styles of men and women, we used the repeated measures analysis of variance (ANOVa) model as implemented in the General Linear Model (GLM) module of IBM SPSS Version 21. This GLM approach provides Mauchly's test of sphericity to evaluate whether the variances and covariances of the repeated measures are the same. As Mauchly's test is highly sensitive (i.e. conservative) several test statistics (e.g., Greenhouse–Geisser or Huynh–Feldt) have been developed that adjust for degrees of freedom in testing for equality of means across time (Heck et al., 2010). These modifications enable appropriate inferences about significant differences in mean levels of repeated measure across time. We specified separate ANOVA models for TOC and EOC. Each model included the four assessment ages as a within-subject (Time) factor, sex as a between-subject factor, and sex-by-assessment-age-group as the interaction term.

We also examined associations between EOC and TOC at ages 17 and 24 and lifetime psychiatric disorders assessed at age 24 using a multiple logistic regression model for each disorder, controlling for stressors reported at mean ages 17 and 24, and sex. Specifically, we ran four regression models for four clinical outcomes: a) major depressive disorder; b) anxiety disorders, c) alcohol abuse or dependence, and d) drug abuse or dependence. There were seven predictor variables in each regression model: EOC score at mean age 17, TOC score at mean age 17, the number of stressful life events reported at age 17, EOC score at mean age 24, TOC score at mean age 24, the number of stressful life-events reported at age 24, and sex. We checked the assumptions for logistic regression (e.g. convergence of estimation, measurement properties of the independent and dependent variables) and they were met.

Averages are presented as means ± standard deviation (S.D.) unless noted otherwise. Magnitudes of differences are presented as standardized effect size (ES), which is mean difference divided by pooled standard deviation (Lipsey and Wilson, 2001). Effects are considered statistically significant when two-tailed p < 0.05. Risks are presented as computed Odds Ratios (OR) with their 95% confidence intervals (CI).

3. Results

3.1. Subject characteristics

Of the 970 subjects, 54% were women, and 98% were Caucasian (Table 1). At mean age 33, 67% of the participants were married and 33% either divorced or single, education averaged 15.3 ± 1.9

Table 1

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<th>Characteristics of 970 study subjects.</th>
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<td>Characteristics</td>
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<td>Sex (female, %)</td>
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<td>Ethnicity (%)</td>
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<td>Caucasian</td>
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<td>Others</td>
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<td>Marital status at age 33 (%)</td>
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<td>Married</td>
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<td>Employment (years ± S.D.)</td>
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<td>Employment at age 33 (%)</td>
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Other ethnicities include Black, Hispanic, Asian, and Native American.
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