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Promoting Adolescents' Personal and Social Identities: A Meta-Analysis of Psychosocial Interventions

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ABSTRACT

This systematic review with meta-analysis sought to identify psychosocial interventions to enhance adolescents' and emerging adults' personal and social identities and assess their effectiveness. The review was pre-registered in PROSPERO. Eligible quasi-experimental studies and randomized control trials available as journal articles or gray literature (e.g. dissertations, reports) were searched using multiple strategies. By applying a two-step selection process, a final set of 34 references (reporting 36 independent studies involving 4,529 participants, of whom 2,368 were in the intervention group and 2,161 in the control group) was found to match the eligibility criteria. The meta-analytic findings highlighted the effectiveness of psychosocial interventions addressing personal (17 studies, Cohen's $d = 0.48$ [0.18, 0.77], $p = .002$), social (4 studies, $d = 0.36$ [0.08, 0.65], $p = .012$), and ethnic (17 studies, $d = 0.23$ [0.14, 0.32], $p < .001$) identities. Effect sizes were generally small-to-moderate. Moderating analyses were used to ascertain for whom and when interventions were more effective. Based on the meta-analytic results and the state-of-the-art appraisal, an agenda for future research was proposed.

KEYWORDS

Identity; interventions; meta-analysis; effectiveness; adolescents

Introduction

Answering the identity question "Who am I?" is a fascinating yet challenging human experience. Identity search constitutes a fundamental developmental milestone throughout life and becomes central in adolescence (Erikson, 1968). During this stage, biological, cognitive, and social transformations prompt individuals to reassess and redefine their sense of self (Branje, 2022; Meeus, 2023). This quest is also central in emerging adulthood, as young individuals actively explore their identities across different life domains (Arnett, 2000).

In line with a *developmental social-psychological perspective* (Crocetti et al., 2023), personal and social identities are formed and changed over time in a dynamic process. Notably, both personal and social identities hold significant implications for the adaptation of adolescents and emerging adults (e.g., Waterman & Schwartz, 2024). The extent to which individuals develop a clear sense of their identities is related to a wide array of positive outcomes, spanning from mental health and well-being to quality of interpersonal relationships, up to collective outcomes, such as social responsibility and civic engagement (for a review see, Crocetti, 2018).

Hence, developing interventions to foster identities is crucial for promoting positive youth development (Archer, 2008; Hoffman & Umaña-Taylor, 2023). In line with this reasoning, this systematic

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review with meta-analysis sought to identify psychosocial interventions targeting youth's personal and social identities. Their overall effectiveness, as well as factors that could moderate it, was critically appraised.

Identities: a developmental social-psychological perspective

The developmental social-psychological perspective (Crocetti et al., 2023) integrates theories and models of personal and social identities to unfold the complex dynamic through which identities are developed as embedded in real-life contexts. In doing so, this perspective aims to build bridges between the research streams focused on personal and social identities that have proceeded rather in parallel, tackling different identity facets and implications of identity. Here, a brief review of the main identity facets and their outcomes is provided in order to define the theoretical grounding for the current review. An overview of the identity outcomes discussed below is provided in Table 1.

Personal identity

Identity synthesis

The literature on personal identity is rooted in the Eriksonian and neo-Eriksonian approaches (for reviews, see S. J. Schwartz, 2001; S. J. Schwartz et al., 2014). In his psychosocial theory, Erikson (1968) framed the struggle between identity synthesis and identity confusion as the central developmental challenge of adolescence. *Identity synthesis* reflects the extent to which individuals have combined and integrated relevant earlier identifications in a unique and personal way that provides a sense of clarity and direction. In contrast, *identity confusion* entails a sense of ambiguity regarding one's life path, accompanied by a lack of enduring commitments to significant life decisions. The more individuals navigate through this developmental challenge, finding their balance toward identity synthesis, the more they report higher levels of well-being (Hatano et al., 2018; S. J. Schwartz et al., 2023) and are well-equipped to face other developmental tasks, such as the transition and the adjustment to tertiary education or work (Sugimura et al., 2023).

Identity distress

The identity crisis theorized by Erikson (1968) can be associated with a high degree of *identity distress* (Berman et al., 2004). This concept refers to the subjective experience of youth who struggle to develop a clear identity. This difficulty can be related to individual frailties and societal and cultural factors. As societies become increasingly more complex, diverse, and pluralistic, young people may feel overwhelmed by different options and find themselves unequipped to make meaningful identity choices (Cote & Allahar, 1995; B. Schwartz, 2000).

Identity statuses

The identity status paradigm represents a key operationalization of Erikson's theory (Marcia, 1966). Identity statuses have been conceptualized as specific ways of coping with the identity crisis characterizing youth. They can be differentiated according to the extent to which individuals have assumed a *commitment* in

Table 1. Overview of the main identity outcomes considered in this meta-analysis.

Personal identity
Identity synthesis (Erikson, 1968)
Identity distress (Berman et al., 2004)
Identity processes (commitment and exploration) and identity statuses (achievement, foreclosure, moratorium, and diffusion) (Marcia, 1966); for dual cycle models; Crocetti et al., 2008); Luyckx et al., 2008)
Identity styles (Berzonsky, 1989)
Narrative identity (McAdams and McLean, 2013).
Social identity (Tajfel and Turner, 1979)
Ethnic identity (Phinney, 1990); Umaña-Taylor et al., 2014)

significant life domains after active *exploration* of available options. Hence, based on the combination of these two processes, individuals can be in one of the following identity statuses: *achievement* (a commitment has been made after active exploration of different alternatives); *foreclosure* (a commitment has been made without exploring other options); *moratorium* (a commitment has not been made yet, the exploration phase is still ongoing); and *diffusion* (both commitment and exploration are absent). In this approach, the focus has been mainly on uncovering inter-individual differences among youth in various identity statuses. Extensive research has shown that youth in the achievement status report the better profile in terms of mental health and adjustment, followed by those in foreclosure; in contrast, the diffusion and moratorium statuses are characterized by lower levels of adjustment and the manifestation of problem behaviors (for a review see, Kroger & Marcia, 2011).

Identity styles

Building upon the identity status model, Berzonsky (1989) proposed the identity style model. According to this approach, individuals use different social-cognitive strategies or processing orientations to deal with or avoid the task of identity formation. Adolescents who adopt an *informational* orientation tend to self-reflect and actively pursue and assess information relevant to their sense of self. Conversely, those with a *normative* orientation tend to embrace norms and values from influential figures automatically and conform to their expectations. On the other hand, individuals with a *diffuse-avoidant* orientation tend to procrastinate and postpone addressing identity-related issues for as long as feasible. Thus, while informational and normative orientations, albeit through different pathways, are beneficial for making identity commitments, the diffuse-avoidant style is dysfunctional (for a review, see Berzonsky, 2011). As a result, this style is related to indices of maladjustment (e.g., lower self-esteem; Crocetti et al., 2009). In contrast, an active approach to identity formation, such as the one characterizing the *informational* style, is beneficial not only for adolescents' positive youth development (Crocetti et al., 2014) but also for society, as it sustains pro-diversity and pro-equality values (Erentaitė et al., 2019).

Identity processes

The development of process-oriented models, such as the five-dimensional model (Luyckx et al., 2008) and the three-factor model (Crocetti et al., 2008), has represented another main advancement in the Eriksonian framework (Meeus, 2011). Both models assume a dual-cycle approach in which nuances between different forms of commitment and exploration account for dynamic and iterative cycles of identity maintenance (or consolidation) and identity formation. In the *identity maintenance cycle*, individuals can delve deeply into their commitments, examining whether they align well with their aspirations, abilities, and potential. When this does not happen, and individuals begin to doubt their identity, they transition into the *identity formation cycle*. In this phase, they seek out new options because their existing commitments fail to satisfy or align with their needs. Therefore, while the identity maintenance cycle nurtures stability that promotes adolescents' well-being (e.g., De Lise et al., 2024), the identity formation cycle may tap into identity crises and transitions (Meeus, 2018).

Narrative identity

Another vibrant research area in the personal identity field is represented by the study of narrative identity (McAdams, 2011). According to the *narrative identity* model (McAdams, 2018), through autobiographical reasoning, individuals can reflect on their past and consequently make sense of their present selves and imagine who they will be in the future (McAdams & McLean, 2013). Hence, active autobiographical reasoning supports youth in making identity-relevant choices (McLean & Pasupathi, 2012). For instance, individuals who recounted their experiences in highly agentic terms and made meaningful self-event connections also displayed higher commitment and more adaptive exploration processes (van Doeselaar et al., 2020). As a result, individuals exhibiting higher narrative coherence in life stories also report higher psychological well-being (Mitchell et al., 2020).

In brief, within the research tradition pioneered by Erikson's theory, models have been developed to capture different ways individuals cope with the identity task. On the one hand, greater awareness of the multi-faceted and dynamic nature of identity processes has been progressively achieved (Branje, 2022; Meeus, 2023). On the other hand, attempts have been made to tackle the interplay between personal and social identity (Albarello et al., 2018; Crocetti et al., 2018).

Social identity

The literature on social identity draws from the seminal work of Tajfel and Turner (1979), who conceptualized *social identity* as " . . . the part of an individual's self-concept which derives from his membership of a social group (or groups) together with the value and emotional significance attached to that membership" (Tajfel, 1978, p. 63). This conceptualization stresses the significance of processes of social categorization and social identification. Individuals navigate the social world through *social categorization* by distinguishing between ingroup and outgroup members (Tajfel & Turner, 1979). *Social identification* refers to subjective aspects of group membership, including the sense of identity and self-definition provided by feeling attached to a specific group (Postmes et al., 2013).

Individuals belong to multiple groups, thus showing multiple social identities (Deaux, 1996). Some groups can be more proximal to youth experiences, such as family, friends, and classmates (e.g., Albarello et al., 2018). Other groups can be more abstract and distal, such as national and ethnic groups (e.g., Karataş et al., 2023), the European one (e.g., Jugert et al., 2021), up to the human group (e.g., Carmona et al., 2022). A fundamental developmental trajectory of social identification has been documented (Albarello et al., 2021), indicating that social identification develops from identification with proximal groups (e.g., classmates) to identification with superordinate and, thus, more abstract groups (e.g., humanity).

In line with the social cure perspective (Jetten et al., 2017), high social identification with one or more groups corresponds to the human need to belong and represents a protective factor for individuals' health and well-being. For instance, adolescents' multiple social identifications (as students, family members, and members of the majority national group) have been associated with their self-esteem (Benish-Weisman et al., 2015). A more complex picture emerges when turning to collective outcomes and intergroup relations. While social identification with the national group can heighten prejudice against immigrants (Crocetti et al., 2021), identification with superordinate and common in-groups is related to more inclusive attitudes and harmonious intergroup relations (Albarello & Rubini, 2012; Albarello et al., 2023).

Ethnic identity

In societies characterized by increasing levels of ethnic and cultural diversity, great attention has been paid to studying *ethnic identity* (e.g., Yip, 2018). Ethnic identity has been conceptualized through the lens of both personal and social identity theories and models. On the one hand, by relying on a developmental personal identity perspective, identity processes (e.g., commitment and exploration) have been examined to understand how youth develop their ethnic identity, possibly transitioning through different identity statuses to achieve a clear sense of their ethnicity (Phinney, 1990, 1992). On the other hand, by assuming a social identity perspective, researchers have investigated the sense of self-identification with one's ethnic group and the subjective feeling of pride associated with this membership (e.g., Rivas-Drake et al., 2014).

A vast corpus of evidence collected from both perspectives has highlighted that ethnic identity is particularly salient in ethnic minority youth compared to their majority peers (L. Kiang & Baldelomar, 2018; Umaña-Taylor et al., 2014). Notably, developing a clear sense of ethnic identity and positively identifying with the ethnic group plays a protective role in enhancing youth adjustment (for reviews, see, e.g., Rivas-Drake et al., 2014; Walker et al., 2024). Furthermore, ethnic identity can buffer the detrimental effects of discrimination on minorities' adjustment (Yip et al., 2019). Hence, given its salience and protective role, it is of utmost importance to understand how to support youth development of their ethnic identity.

The present study

Drawing from an overarching developmental social-psychological perspective (Crocetti et al., 2023), the purpose of this study was to systematically review interventions targeting personal and social identities. We focused on psychosocial interventions that could be applied to various settings and aimed at changing one or more facets of adolescents' and emerging adults' personal and social identities as primary or secondary outcomes (see Table 1 for an overview). We sought to systematically appraise the current state-of-art, identifying extant interventions, evaluating their effectiveness, and tackling which factors could moderate them.

Method

Eligibility criteria

The current review was pre-registered in PROSPERO (CRD42022383780). In line with the PRISMA guidelines (Page et al., 2021), eligibility criteria were formulated in the PICOS format (i.e., Participants, Intervention, Comparison, Outcomes, and Study design). Eligible studies were those that matched the following criteria: 1) *participants* (P) were adolescents and youth from the general population aged between 10/11 to 24/25 years (i.e., this age range includes junior high school students, secondary high school students, and college and university students[1]); 2) psychosocial *interventions* (I) aimed at promoting their identities were tested (e.g., clinical or teaching curriculum based interventions were excluded); 3) a *comparison* (C) with a control group was conducted (i.e., studies that included only comparisons of two experimental groups with no control group were excluded); 4) *outcome*(s) (O) of the interventions included one or more dimensions of personal and social identities (e.g., personal identity processes, social identification, ethnic identity as indicated in Table 1) in line with the theoretical background; and 5) the *study design* was appropriate for testing the intervention effectiveness (i.e., randomized control trial, RCT, or quasi-experimental study with comparisons between the intervention and the control group conducted after the intervention and, eventually, in additional follow-up). Only interventions that also included a quantitative evaluation were considered (i.e., interventions that consisted only of a qualitative assessment were not eligible). Studies could be published in any language and year, and both journal articles and gray literature (e.g., dissertations, conference proceedings, reports) were included. Studies published in languages other than English were, according to the language, translated by team members (e.g., French, Spain) or international colleagues (e.g., Chinese, Japanese).

Literature search

The literature search was conducted on December 13, 2022 and updated on April 9, 2024. Multiple search strategies (i.e., research in bibliographic databases; manual research of relevant studies on websites of journals deemed most likely to publish studies on the topic; manual research in related reviews or theoretical contributions on interventions; and manual research in the references of included studies) were applied to identify eligible studies published in peer-reviewed journal articles or available gray literature. First, several bibliographic databases were searched: PsycINFO, PsycArticles, ERIC (i.e., these three databases were searched through the Ebsco platform), Web of Science, Scopus, ProQuest Dissertations and Theses, and GreyNet. The complete query strings used in the search in each bibliographic database are available in the Supplementary Materials (Appendix 1). Second, the websites of journals most likely to publish studies on identity interventions were screened manually to identify articles in press (i.e., online first). The list of journals (available in the Supplementary Materials, Appendix 2) was generated by checking the statistics of the prior search in Web of Science. Third, the reference lists of related reviews or theoretical contributions on identity interventions (Archer, 2008; Kaplan et al., 2014; McLean & Syed, 2015; Montgomery et al., 2008) were

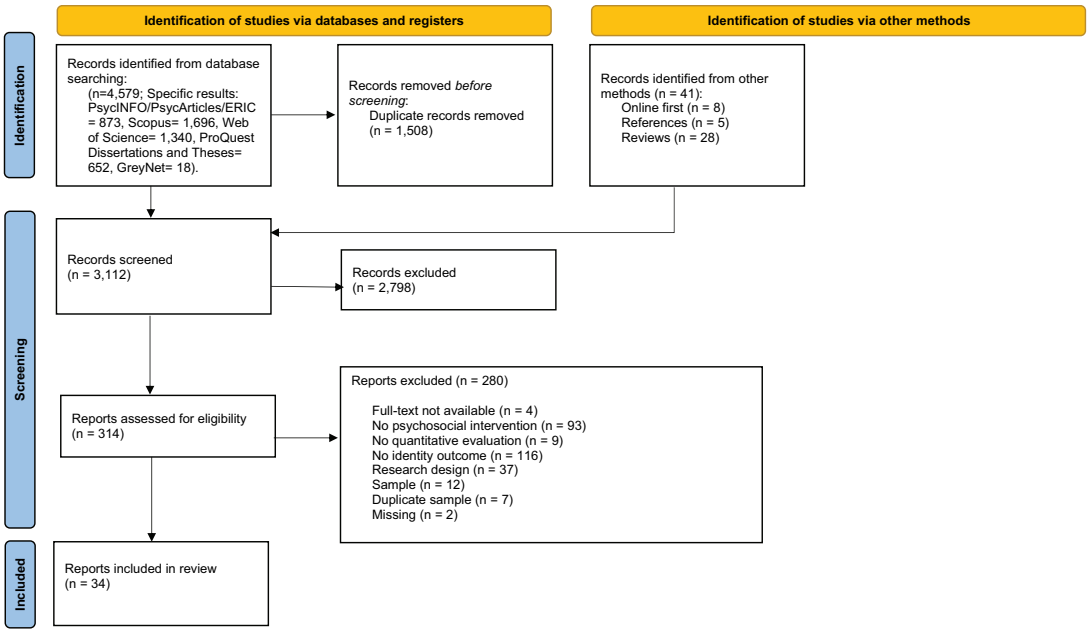

Figure 1. Prisma flow diagram.

screened manually to identify additional studies that could match eligible criteria. Finally, the last search strategy consisted of screening the references of the selected publications to identify relevant studies not initially found through the other search strategies. This check was completed in May 2024. The results of the search strategies are documented in the PRISMA diagram (Figure 1).

Selection of primary studies

A total of 4,579 references were identified from database searching. All the references were saved in Myendnoteweb, and 1,508 duplicates were removed. Moreover, 41 references were identified through other methods (Figure 1). The titles and abstracts of the remaining 3,112 references were screened, and 314 references were selected for further review. Based on the analysis of the full-texts, 280 references were excluded (see Figure 1 for specific reasons), whereas 34 references were included in the meta-analysis.

In both steps, pairs consisting of team members and research assistants independently screened the titles and abstracts at first and then the full-texts, checking if they matched the eligibility criteria. Interrater reliability was high (the percentages of agreement between the raters was on average 85.30% in the first step and 95.84% in the second step). Discrepancies were resolved through discussion with a third researcher.

Coding procedures

The included studies were coded using a protocol to extract information related to the publication (e.g., publication outlet), the study (e.g., sample characteristics, type of control group, identity measures), and the effectiveness of the intervention (e.g., data for effect size computations). The

entire coding protocol is available in the Supplementary Materials (Appendix 3). The coding was completed by the second and last author, who reported a high rate of agreement (86.11%). Discrepancies were resolved through discussion with the first author. All the extracted information was included in a Microsoft Excel spreadsheet. When data for effect size computations were not reported in primary studies, study authors were contacted by e-mail to request missing data. Specifically, four authors were contacted by e-mail. Three authors replied by providing the requested data, while one author did not respond, and the related study was excluded. An additional study was excluded in this step since it was not possible to find the author's in-use contacts (see Figure 1).

The quality of studies was assessed using the Cochrane Risk of Bias Tool (RoB; Higgins et al., 2019) for randomized controlled trials and the Risk of Bias in Non-randomized studies of interventions (ROBINS-I; Sterne et al., 2016). The risk of bias assessment was applied only to studies reported in journal articles. The RoB estimates the risk of bias of included studies in five domains: randomization process, deviations from the intended interventions, missing outcome data, measurement of the outcome, and selection of the reported result. All types of bias were rated as low risk, some concerns, or high risk. The ROBINS-I assesses bias in seven different domains: bias due to confounding, bias in the selection of participants into the study, bias in classification of interventions, bias due to deviations from intended interventions, bias due to missing data, bias in the measurement of outcomes, and bias in the selection of the reported result. All domains were rated as having low, moderate, serious, or critical risk of bias. The risk of bias in primary studies was assessed by two independent raters (i.e., the second and last author), which reported a high rate of agreement (87.5%). Discrepancies were resolved through discussion with a third rater (i.e., the first author).

Strategy of analysis

Descriptive analyses were conducted in SPSS, whereas meta-analytic analyses were run through ProMeta 3. An effect size (Cohen's *d*) was computed for each study, along with its 95% confidence interval, variance, standard error, and statistical significance, to examine intervention effectiveness. Positive values of Cohen's *d* generally indicate a positive effect of the intervention (i.e., the identity outcomes improved more in the intervention group than in the control group). Cohen's *d* values of |.20|, |.50|, and |.80| are considered small, medium, and large effect sizes, respectively (Cohen, 1988; Ellis, 2010).

Effect sizes were combined across studies to obtain an overall index of intervention effectiveness using the inverse-variance method (Borenstein et al., 2009). The random-effects model was applied as a conservative approach to account for different sources of variation among studies (i.e., within-study variance and between-studies variance, T^2; Hedges & Vevea, 1998). The *Q* statistic was applied to test if there was significant heterogeneity. The I^2 index was used to estimate it, with values of 25%, 50%, and 75%, respectively, denoting a low, moderate, and high proportion of dispersion in the observed effects that would remain should the sampling error be removed (Higgins et al., 2003). Moderator analyses were performed to test which factors can account for the heterogeneity (Viechtbauer, 2007). Categorical and continuous moderators were tested through subgroup analyses and meta-regressions, respectively. These analyses were conducted when at least three studies for each moderator level were available (Crocetti, 2016).

Finally, multiple publication bias analyses were applied to control for the fact that published studies may have a larger mean effect size than unpublished studies (Rothstein et al., 2005). The funnel plot (i.e., a scatter plot of the effect sizes estimated from individual studies against a measure of their precision, such as their standard errors) was scrutinized, and its potential asymmetry was tested using Egger's regression method (Egger et al., 1997). In the absence of bias, the plot would be shaped as a symmetrical inverted funnel. Furthermore, the trim and fill procedure, an iterative non-parametric statistical technique aimed at evaluating the effect of potential data censoring on the result of the meta-analysis (Duval & Tweedie, 2000), was performed. In this procedure, the absence of publication bias is indicated by zero trimmed studies

or, in the presence of trimmed studies, by trivial differences between the observed and the estimated effect sizes (Duval, 2005). When these multiple methods converge in indicating that the impact of publication bias is absent or minimal, the meta-analytic findings can be regarded as highly trustworthy (Crocetti, 2016).

Results

Studies characteristics

A total of 34 reports, including 36 independent studies, were included in this systematic review. The characteristics of the *publications* are reported in Appendix 4 of the Supplementary Materials, and the main characteristics of participants and interventions are reported in Table 2. Specifically, included studies were available all in English, as doctoral dissertations (32.40%) or journal articles (67.60%). Around half of the included articles were published in the last fifteen years, between 2009 and 2023 (52.94%). Additionally, regarding the journal articles indexed in Journal Citation Reports, the average impact factor was 2.12 (*SD* = 1.45, range 0.34–4.89).

Concerning the quality of studies published in journal articles, results concerning the risk of bias assessment are reported in Appendix 5 in the Supplementary Materials. Concerning the studies with a quasi-experimental design, results showed a medium quality of the studies ranging from low (11 out of 21 articles) to moderate (9 out of 21 articles) up to high (1 article) risk of bias. Only two articles reported an RCT design (Ceccon et al., 2023; Ho et al., 2021) that were characterized by a low risk of bias in most domains except for one.

All the included studies, except for two (Armstrong, 2005; Juang et al., 2020), focused on one or more identity facets that referred to personal identity, social identity, or ethnic identity. These two studies included both personal identity and ethnic identity outcomes. The meta-analytic results of each line of research are discussed below.

Meta-analysis on personal identity

A total of 17 studies focused on outcomes related to the theoretical frameworks on personal identity (i.e., identity synthesis, identity distress, identity processes, identity statuses, identity styles, and narrative identity). They included a total number of 1,730 participants ($M = 108.12$, $SD = 95.85$, range: 20–393; average % of females = 52.21%, $SD = 25.42\%$, range 0–86%; $M_{age} = 17.44$, $SD = 3.37$, range = 12.35–24.10 years), with 904 in the intervention condition and 826 in the control condition. The average percentage of total ethnic minorities was 70.72% ($SD = 21.76\%$, range 28–90.08%). Most of the studies were conducted in North America (75%), whereas the remaining were implemented in Asia (i.e., Singapore, Taiwan; 6.25%), Europe (6.25%), Iran (6.25%) and Israel (6.25%).

The average duration of the interventions was about three months ($M = 11.47$ weeks, $SD = 9.03$, range 2–40 weeks). The interventions included several activities, such as tutoring, mentoring, and counseling activities. All these studies used a quasi-experimental design (pre-post). The average time-lag duration between baseline and post-assessment was about three months and a half ($M = 14.81$ weeks, $SD = 12.09$, range 2–45 weeks). Studies used different types of control groups: comparison group of non-participants (56.25%), active control group involved in parallel and non-inherent to the intervention activities (18.75%), waiting list (12.50%), and matched control group (12.50%). The effect sizes for each study are reported in Table 2 and further commented on below.

Identity synthesis

Six studies focused on the effects of interventions on *identity synthesis*. Specifically, four of these studies reported null-to-small effects, while two (Nooripour et al., 2023; Orbach & Bar-Joseph, 1993) reported a large and significant impact. Combining the results of these studies (Table 3), results, involving 870 participants ($n_{intervention} = 540$, $n_{control} = 330$), showed a medium and significant effect.

Table 2. Participants and interventions characteristics.

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
Armstrong (2005)	20	10	10	60%	16,59	35%	65%	US	Matched group	2 months	8 weeks	Students	Identity Statuses (EOMEIS-2); Ethnic identity (MEIM)	Achievement: *d* = 0.00 [−0.88, .88] Foreclosure: *d* = 0.41 [−0.31, 1.13] Moratorium: *d* = 0.59 [−0.15, 1.33] Diffusion: *d* = 0.47 [−0.26, 1.20] Ethnic identity: *d* = 0.06 [−0.82, 0.93]
Belgrave et al. (2004)	52	35	17	100%	*n/a*	0%	100%	US	Active control group	Approximately 1 year	45 weeks	African American adolescents	Ethnic identity (MCAIQ)	*d* = 0.56 [−0.03, 1.15]
Ceccon et al. (2023)	747	382	365	52%	15.12 (0.68)	*n/a*	32%	Italy	Waiting list	9 weeks	8 weeks	High school students	Ethnic identity (EIS)	Post-assessment: *d* = 0.22** [0.10, 0.34] Follow-up: *d* = 0.10 [−0.02, 0.22]
Duerden et al. (2009)	88	43	45	51.10%	13.33 (0.86)	72%	28%	US	Comparison group of non participants	2 weeks	2 weeks	Adolescents with financial problems	Identity Styles (ISI-6 G)	Commitment: *d* = 0.24 [−0.17, 0.66] Informational: *d* = 0.25 [−0.16, 0.66] Normative: *d* = 0.23 [−0.18, 0.64] Diffuse/Avoidant: *d* = 0.36 [−0.05, 0.77]

(*Continued*)

Table 2. (Continued).

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
Eichas et al. (2017)	209	113	96	56%	15.94 (1.1)	*n/a*	*n/a*	US	Comparison group of non participants	Approximately 4 months	approximately 4 months	African American and Hispanic adolescents	Identity synthesis (EPSI)	Post-assessment: $d = 0.07$ [−0.20, 0.34] Follow-up: $d = 0.11$ [−0.16, 0.38]
Ferrer-Wreder et al. (2002)	92	46	46	46%	16.62	20%	80%	US	Matched group	9 weeks	9 weeks	Adolescents at risk	Identity styles (ISI3); Identity processes (EIPQ)	Informational: $d = 0.00$ [−0.50, 0.50] Normative: $d = 0.45$ [−0.05, 0.96] Diffuse/avoidant: $d = 0.00$ [−0.50, 0.50] Commitment: $d = 0.34$ [−0.09, 0.77] Exploration: $d = 0.00$ [−0.50, 0.50]
Gordon (2000)	102	57	45	0%	13.49 (0.84)	0%	100%	US	Comparison group of non participants	*n/a*	*n/a*	Ethnic minority adolescents	Ethnic identity (MEIM)	$d = 0.54$** [0.14, 0.94]
Hall (1990)	48	24 (divided in two experimental conditions)	24	66.60%	*n/a*	*n/a*	*n/a*	US	Active control group	10/12 months	10/12 months	High school students	Identity synthesis (Constantinople test)	$d = 0.00$ [−0.64, 0.64]
Ho et al. (2021)[a]	34	18	16	76.50%	22.18 (2.22)	*n/a*	*n/a*	Singapore	Waiting list	5 weeks	5 weeks	Bilingual adolescents	National Identity (NATI)	Post-assessment: $d = 0.77$* [0.07, 1.47] Follow-up: $d = 0.12$ [−0.56, 0.79]

(*Continued*)

Table 2. (Continued).

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
Juang et al. (2020)	195	99	96	39%	12.35 (0.79)	*n/a*	83%	Germany	Waiting list	17 weeks	10.5 weeks	High school students	Ethnic identity (EIS); Identity resolution	Ethnic identity: $d = 0.12$ [−0.12, 0.36] Identity resolution: $d = 0.10$ [−0.18, 0.38]
M. W. Kiang (2020)	79	44	35	58.20%	16.81 (1.53)	3.80%	96.30%	US	Comparison group of non participants	5-6 weeks	5 weeks	Students	Ethnic identity (MEIM)	$d = 0.22$ [−0.23, 0.66]
Lewis et al. (2012)	65	32	33	48%	13.3 (0.53)	0.00%	100%	US	Active control group	8 months	16 weeks	African American adolescents	Ethnic identity (MEIM)	$d = 0.00$ [−0.48, 0.49]
Liddell and Kurpius (2014)	22	11	11	0%	16.59 (1.36)	50.00%	49.80%	US	Waiting list	10 weeks	10 weeks	Adolescent males	Identity distress (IDS)	$d = 0.05$ [−0.78, 0.89]
Lorente (1999)	63	29	34	40%	15.97	14.00%	86%	US	Comparison group of non participants	2 months	8 weeks	Adolescents at risk	Identity processes (EIPQ); Identity distress (RIDS)	Commitment: $d = 0.00$ [−0.50, 0.50] Exploration: $d = 0.36$ [−0.01, 0.73] Distress: $d = 0.40$ [−0.00, 0.80]
Mance (2006)	93	47	46	100%	12.5 (0.95)	0.00%	100%	US	Waiting list	2 months	8 weeks	African American adolescents	Ethnic identity (MCAIQ)	$d = 0.29$ [−0.12, 0.70]
Markstrom-Adams et al. (1993) (Study 1)	46	35	16	*n/a*	*n/a*	*n/a*	*n/a*	US	Comparison group of non participants and Active control group	7 weeks	4 weeks	University students	Identity statuses (EOMEIS-2)	Achievement: $d = 3.11$*** [2.23, 3.98] Foreclosure: $d = 0.34$ [−0.29, 0.98]
Markstrom-Adams et al. (1993) (Study 1)	50	17	33	*n/a*	*n/a*	*n/a*	*n/a*	US	Comparison group of non participants and Active control group	7 weeks	4 weeks	University students	Ego identity statuses (EOMEIS-2)	Achievement: $d = 0.00$ [−0.67, 0.67]

(*Continued*)

Table 2. (Continued).

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
Meca et al. (2014)[a]	141	70	71	77.30%	23.05 (2.22)	14%	86%	US	Active control group	10 months	6 months	Emerging adults	Identity commitment (Ego identity process questionnaire); Identity distress (IDS); Identity synthesis (EPSI)	Commitment: $d = 0.07$ [−0.27, 0.40] Synthesis: $d = 0.07$ [−0.26, 0.41] Distress: $d = 0.20$ [−0.14, 0.54]
Millstein (1997)	56	31	25	100%	16.55	18%	82%	US	Comparison group of non participants	Approximately 10 weeks	6 weeks	Adolescents pregnant or mothers	Ethnic identity (MEIM)	$d = 0.18$ [−0.35, 0.71]
Nooripour et al. (2023)	28	14	14	0%	16.05 (2.3)	*n/a*	*n/a*	Iran	Comparison group of non participants	10 weeks	8 weeks	Male adolescents	Identity synthesis (personal identity questionnaire)	Post-assessment: $d = 1.78$*** [0.90, 2.65] Follow-up: $d = 1.24$** [0.43, 2.05]
Orbach and Bar-Joseph (1993)	393	215	178	54.96%	n/a	*n/a*	*n/a*	Israel	Active control group	Approximately 10 weeks	7 weeks	Adolescents	Identity synthesis (AEIS)	$d = 1.79$*** [1.28, 2.31]
Paricio et al. (2020)	176	83	93	50.60%	12.89 (0.89)	*n/a*	*n/a*	Spain	Comparison group of non participants	27 weeks	8 months	Adolescents who live in rural settings	Group identification (Tarrant's group identification scale)	$d = 0.53$** [0.23, 0.84]
Prati et al. (2020)	69	35	34	49%	15.74 (0.5)	*n/a*	13%	Italy	Comparison group of non participants	2 years	2 years	Adolescents	European identification (Ad hoc questions)	$d = 0.32$ [−0.15, 0.80]
Pryce et al. (2019)	92	67	25	43.50%	15.20 (2.12)	*n/a*	*n/a*	Canada	Comparison group of non participants	Approximately 6 months	Approximately 6 months	Newcomer	Ethnic identity (MEIM)	$d = 0.24$ [−0.15, 0.63]

(*Continued*)

Table 2. (Continued).

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
S. J. Schwartz et al. (2005)[a]	114	85	29	86%	24.1 (5.5)	16.40%	83.90%	US	Comparison group of non participants	10 weeks	6-8 weeks	Emerging adults	Identity styles (ISI)	Informational: $d = 0.05$ [−0.42, 0.52] Normative: $d = 0.13$ [−0.34, 0.60] Diffuse/Avoidant: $d = 0.07$ [−0.30, 0.43]
Serna (2005)	24	12	12	50%	11.87	0	100%	Hawaii	Comparison group of non participants	6 weeks	6 weeks	Hawaiian students	Ethnic identity (MEIM)	$d = 2.48^{**}$ [0.90, 4.65]
Shea et al. (2009) (Study 2)	54	27	27	55.50%	18.70 (0.92)	*n/a*	100%	US	Comparison group of non participants	2 months	8 weeks	Ethnic minority adolescents (Chinese)	Ethnic identity (MEIM)	$d = 0.12^{**}$ [−0.41, 0.65]
Shechtman and Tanus (2006)	474	221	253	53.60%	14.62 (1.5)	*n/a*	*n/a*	Israel	Comparison group of non participants	1 month after the treatment	not reported	Arab educational section in Israel students	Arab and Israelian Identity (Personal Dimensions of Differences Scale; Dunbar, 1997)	Arab: $d = 0.03$ [−0.15, 0.21] Israelian: $d = 0.23^{*}$ [0.05, 0.41]
Sheperis (2003)	148	72 (divided in two experimental conditions)	76	73%	*n/a*	*n/a*	*n/a*	US	Waiting list	2 weeks	2 weeks	Adolescents	Ethnic identity (MEIM)	$d = 0.16$ [−0.20, 0.53]
E. N. Thomas (2005)	80	50	30	57%	*n/a*	0%	100%	US	Comparison group of non participants	6 months approximately	6 months approximately	African American adolescents	Ethnic identity (RIAS)	$d = 0.40$ [−0.05, 0.86]
O. Thomas et al. (2008)	74	36	38	100%	14.67 (0.68)	0%	100%	US	Comparison group of non participants	3 months	10 weeks	African American adolescents	Ethnic identity (MEIM)	$d = 0.46$ [−0.00, 0.92]

(*Continued*)

Table 2. (Continued).

Study	N	$n_{intervention}$	$n_{control}$	% females	Mean age (*SD*)	Total ethnic majority at baseline	Total ethnic minorities at baseline	Country	Control group description	Time lag between baseline and first follow-up	Duration of the intervention	Population targeted	Identity outcome (measure)	Effect size
Tieu (2009) (Study 1)	148	62	86	61.49%	17.89 (0.88)	*n/a*	*n/a*	Canada & US	Comparison group of non participants	10 weeks	10 weeks	University students	Identity statuses (ISI)	Achievement: $d = 0.09$ [−0.38, 0.56] Foreclosure: $d = -0.39$ [−0.87, 0.08] Moratorium: $d = -0.20$ [−0.67, 0.27] Diffusion: $d = -0.33$ [−0.80, 0.14]
Tieu (2009) (Study 2)	56	26	30	60.71%	17.75	*n/a*	*n/a*	Canada & US	Comparison group of non participants	26 weeks	10 weeks	*n/a*	Narrative identity (Mc Adams story interview)	$d = -0.19$ [−0.71, 0.33]
Tseng (2017)	45	22	23	84%	20.49 (1.46)	*n/a*	*n/a*	Taiwan	Comparison group of non participants	2 months	8 weeks	Undergraduates	Narrative identity (Guided autobiography)	$d = 1.46^{***}$ [0.92, 1.95]
Umaña-Taylor et al. (2018)	218	116	102	50%	15.02 (0.68)	36.70%	63.21%	US	Active control group	3 months	8 weeks	Ethnic minority adolescents	Ethnic identity (EIS – Brief)	Post-assessment: $d = 0.06$ [−0.17, 0.29] Follow-up assessment: $d = 0.06$ [−0.17, 0.29]
Yeh and Borrero (2012)	162	99	63	53.10%	17.7 (0.65)	*n/a*	*n/a*	US	Comparison group of non participants	2 years	2 years	Ethnic minority adolescents	Ethnic identity (EIS)	$d = 0.33^{*}$ [0.01, 0.65]

SD: Standard Deviation; *n/a*: Not available. [a] Data for effect size computations obtained from author. Information about socio-economic status was missing from several studies and, when available, was often reported in different ways, making it not possible to further code and examine it. All studies used a group setting except for two (Gordon, 2000 which used a one-to-one setting and Meca et al., 2014 which used a mixed one-to-one and group setting). All studies used a quasi/experimental pre-post design except for two (Ceccon et al., 2023; Ho et al., 2021) which used a Randomized Controlled Trial (RCT) design. AEIS: Adolescents Ego Identity Scale (Tzuriel, 1984); EIPQ: Ego Identity Process Questionnaire (Balistreri et al., 1995); EIS: Rasmussen's Ego Identity Scale (Rasmussen, 1964); EIS-Brief: Ethnic Identity Scale – Brief (Douglass & Umaña-Taylor, 2015); EOM-EIS: Extended Objective Measure of Ego-Identity Status (Adams et al., 1989); EOMEIS-2: Extended Version of the Objective Measure of Ego Identity (Bennion & Adams, 1986); EPSI: Erikson Psycho-Social Stage Index (Rosenthal et al., 1981); IDS: Identity Distress Survey (Berman et al., 2004); ISI3: Identity Style Inventory (Berzonsky, 1989); ISI-6 G: Identity Styles Inventory (White et al., 1998); MCAIQ: Multi-Construct African American Questionnaire (Smith & Brookins, 1997); MEIM: Multigroup Ethnic Identity Measure (Phinney, 1992); NATI: National Identity Scale (Keillor et al., 1996); RIAS: Racial Identity Attitude Scale (Helms and Parham, 1996); RIDS: Revised Identity Domain Scale (Schmaltz, 1994).

Heterogeneity across these studies was large (Table 2). Additionally, of these studies, two (Eichas et al., 2017; Nooripour et al., 2023) also implemented a second follow-up assessment respectively after around eight months and one month. Results of the first study (Eichas et al., 2017) showed that the intervention did not produce a significant change in identity synthesis either in the short ($d = 0.07$ [−0.20, 0.34], $p = .628$) or long-term ($d = 0.11$ [−0.17, 0.38], $p = .434$). Conversely, the results of the second study (Nooripour et al., 2023) showed a significant effect both in the short ($d = 1.78$ [0.90, 2.65], $p < .001$) and in the long-term ($d = 1.24$ [0.43, 2.05], $p < .01$). The overall meta-analytic results were not affected by publication bias, as indicated by the results of Egger's test and the trim and fill procedure (Table 3).

Identity distress

Three studies focused on the effects of interventions on *identity distress*. Overall results (Table 3), involving 220 participants ($n_{intervention} = 104$, $n_{control} = 116$), showed a combined small and significant effect. Heterogeneity was not significant. The results were not affected by publication bias.

Identity processes

Four studies focused on the effects of interventions on *commitment*. Specifically, two of these studies reported null-to-small effects, while the other two reported medium effects. The combined results of these studies (Table 3), involving 352 participants ($n_{intervention} = 174$, $n_{control} = 178$), showed a small and non-significant effect. Heterogeneity was not significant. The results were not affected by publication bias.

Additionally, two studies investigated the effects of interventions on the *exploration* process. Specifically, one reported a null effect, while the other reported a medium and marginally significant effect. Aggregating the results of these studies (Table 3), involving 125 participants ($n_{intervention} = 64$, $n_{control} = 61$), yielded a small and non-significant effect. Heterogeneity statistics were small and non-significant.

Identity statuses

Regarding the effects of interventions on identity statuses, four studies focused on *achievement*. Two of these studies reported a null effect, one a small effect (Tieu, 2009, study 1) and one a large and significant effect (Markstrom-Adams et al., 1993, study 1). Overall, results obtained by combining 176 participants ($n_{intervention} = 92$, $n_{control} = 84$), showed a large but non-significant effect (Table 3). Heterogeneity was significant and high. Results were not affected by publication bias. Additionally, three of these studies reported the effect of interventions on the *foreclosure* status, and two also on *moratorium* and *diffusion* statuses. Overall, results indicated that the proposed interventions did not produce significant changes in these identity statuses. Heterogeneity statistics were not significant (Table 3).

Identity styles

Three studies focused on the effects of interventions on the *informational* style. One reported a null effect, while the remaining two showed small effects. Combining the results of these studies with 222 participants ($n_{intervention} = 117$, $n_{control} = 105$), a combined small and non-significant effect was detected, with non-significant heterogeneity statistics (Table 3). Regarding the effects on the *normative* style, the combined results of three studies ($N = 222$, $n_{intervention} = 117$, $n_{control} = 105$), showed a small and marginally significant effect of the interventions, with no significant heterogeneity (Table 3). Finally, three studies focused on the effects of intervention on the *diffuse-avoidant* style. Of these, one study found a null effect, and two reported a small effect. Meta-analytic results based on a total of 557 participants ($n_{intervention} = 452$, $n_{control} = 105$), showed a small and non-significant effect (Table 3) with no significant heterogeneity. Overall, the results regarding identity styles were not affected by publication bias.

Narrative identity

Two studies focused on the effects of interventions on *narrative* identity. Overall results (Table 3), involving 89 participants ($n_{intervention} = 44$, $n_{control} = 45$), showed a medium but non-significant effect. Heterogeneity was significant and large.

Overall estimate on the effectiveness of interventions on personal identity

To obtain an overall estimate of the effectiveness of intervention on personal identity, all studies that investigated personal identity outcomes on which a clear direction could be expected as a result of the interventions (i.e., increases in identity synthesis, identity processes, achievement status, informational style, and narrative identity, and decreases in identity distress) were combined. The results of 17 studies (Table 3, Figure 2) involving 1,441 participants ($n_{intervention} = 832$, $n_{control} = 609$; the number of participants in this section is slightly lower than the total due to missing data in the primary studies) indicated a medium and significant effect. Heterogeneity statistics were high and significant. Nevertheless, moderator analyses showed no significant moderating effect of the gender balance of the sample ($B = -.00$, $p = .651$), the percentage of minorities ($B = -.00$, $p = .269$), the mean age of participants ($B = .01$, $p = .831$), the duration of the intervention ($B = -.02$, $p = .358$), or the time-lag between baseline and post-assessment evaluation ($B = -.02$, $p = .213$). The results were not affected by publication bias (Table 3, Appendix 6 of the Supplementary Materials).

Table 3. Summary of meta-analytic results, heterogeneity statistics, publication bias analyses.

Outcome	Summary statistics						Heterogeneity			Publication bias	
	k	N_{total}	$n_{intervention}$	$n_{control}$	*d*	[95% CI]	*Q*	T^2	I^2	Egger's test	Trim and fill (n of trimmed studies; estimated *d*, 95% CI)
Personal identity outcomes											
Identity synthesis	6	870	540	330	0.57*	[0.04, 1.10]	50.92***	0.37	90.18	0.15	0
Identity distress	3	220	104	116	0.26*	[0.01, 0.51]	0.83	0.00	0.00	−0.40	0
Identity processes:											
Commitment	4	352	174	178	0.16	[−0.04, 0.36]	1.52	0.00	0.00	0.21	0
Exploration	2	125	64	61	0.22	[−0.12, 0.57]	1.29	0.01	22.24		
Identity statuses:											
Achievement	4	176	92	84	0.78	[−0.50, 2.05]	40.38***	1.55	92.57	0.91	0
Foreclosure	3	142	75	67	0.07	[−0.48, 0.62]	5.02	0.14	60.12	4.43	0
Moratorium	2	92	40	52	0.14	[−0.63, 0.91]	3.17	0.22	68.43		
Diffusion	2	92	50	52	0.02	[−0.75, 0.80]	3.25	0.22	69.23		
Identity styles:											
Informational	3	222	117	105	0.12	[−0.15, 0.38]	0.68	0.00	0.00	−8.59	0
Normative	3	222	117	105	0.26†	[−0.01, 0.53]	0.87	0.00	0.00	0.58	0
Diffuse/ Avoidant	3	557	452	105	0.15	[−0.09, 0.39]	1.56	0.00	0.00	−0.12	0
Narrative identity	2	89	44	45	0.63	[−0.98, 2.25]	19.00***	1.29	94.74		
Overall personal identity	17	1,441	832	609	0.48**	[0.18, 0.77]	117.09***	0.31	86.33	1.98	0
Overall social identity	4	753	357	396	0.36*	[0.08, 0.65]	7.92*	0.05	62.13	1.97	2 (0.17 [−0.12, 0.46])
Overall ethnic identity	17	2,245	1,208	1,037	0.23***	[0.14, 0.32]	17.56	0.00	8.87	1.84	2(0.22 [0.11, 0.33])

k = number of studies; *d*= Cohen's *d*; CI = confidence interval. *Q* = heterogeneity statistic; T^2 = between-study variance I^2 = percent of the observed variance reflecting differences in true effect sizes, rather than sampling error. * $p < .05$, ** $p < .05$, ***$p < .001$, †= $p = .055$. Publication bias statistics were reported only when at least three studies were available.

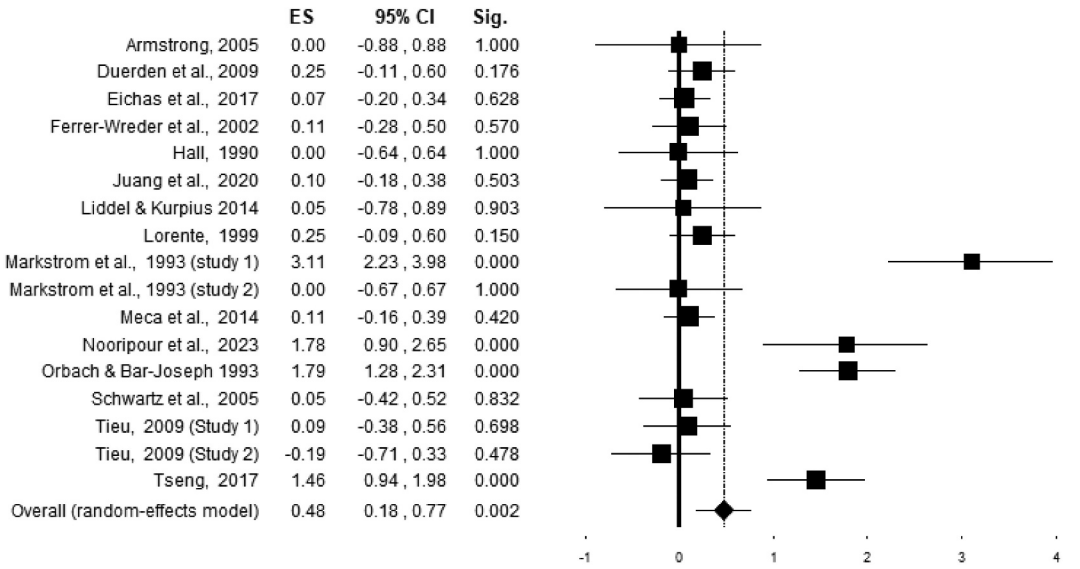

Figure 2. Forest plot of the meta-analysis on overall personal identity.

Meta-analysis on social identity

Four included studies focused on social identity outcomes (i.e., social identification with classmates, national identity, and European identity). They included a total number of 753 participants (M = 188.25, SD = 199.84, range: 34–474; average % of females = 57.42%, SD = 12.86%, range 49–76.50%; M_{age} = 16.36, SD = 4.06, range = 12.89–22.18 years), with 357 in the intervention condition and 396 in the control condition. Two of these studies were conducted in Europe, the remaining in Israel (Shechtman & Tanus, 2006) and Asia (Ho et al., 2021).

The average duration of the interventions was about ten months (M = 42.67 weeks, SD = 47.48, range 5–96 weeks). The interventions included several activities, such as participatory action research, counseling, and group activities. The design was quasi-experimental (pre-post) for all studies except for one that used a randomized controlled trial (Ho et al., 2021). The average time-lag duration between baseline and post-assessment was about eight months (M = 33 weeks, SD = 43.32, range 4–96 weeks). Only one study (Ho et al., 2021) also investigated the effect of the intervention with an additional follow-up assessment. All studies used a comparison group of non-participants except one with a waiting list control group.

Social identification with proximal groups

One study (Paricio et al., 2020) focused on *social identification with classmates*. The sample comprised 176 adolescents ($n_{intervention}$ = 83, $n_{control}$ = 93). Results showed a medium and significant effect.

National identity

Two studies (Ho et al., 2021; Shechtman & Tanus, 2006) focused on the effect of interventions on *national identity*. Specifically, one (Shechtman & Tanus, 2006) focused on the impact of the intervention on Arab and Israelian identity, with results showing a non-significant effect on Arab identity and a significant and small one on Israelian identity. Additionally, the other study (Ho et al., 2021) focused on the results of the intervention on national identity, showing a significant and medium effect in post-assessment and a small and non-significant effect during the follow-up assessment.

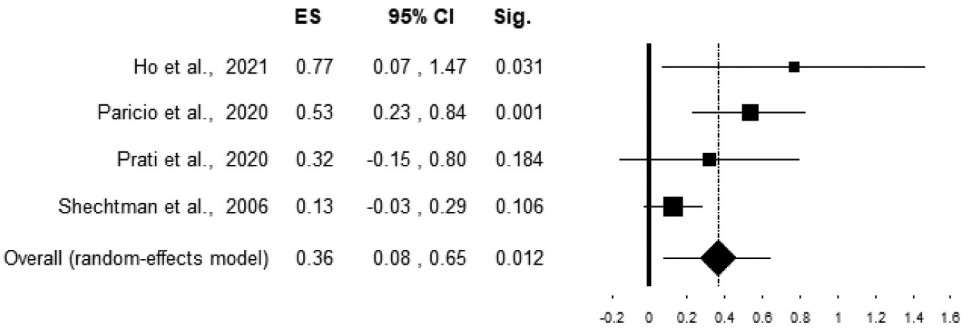

Figure 3. Forest plot of the meta-analysis on overall social identity.

European identity

One study (Prati et al., 2020) investigated the effects of an intervention on *European identity*. The sample comprised 69 adolescents ($n_{intervention} = 35$, $n_{control} = 34$). Results showed a small and non-significant effect.

Overall estimate on the effectiveness of interventions on social identity

To obtain an overall effect of the effectiveness of interventions on *social identity* outcomes, the results of the four studies were combined. The aggregated results based on 753 participants ($n_{intervention} = 357$, $n_{control} = 396$) showed a small and significant effect (Table 3, Figure 3). Heterogeneity across studies was significant and moderate-to-large. The results were not moderated by participants' (i.e., gender balance of the sample, $B = .01$, $p = .461$; and mean age $B = -.11$, $p = 532$) or intervention's (i.e., duration of the intervention, $B = .00$, $p = .243$) characteristics. Publication bias analyses highlighted a non-significant Egger's test (see Table 3 and Appendix 6 of the Supplementary Materials) and two trimmed studies. The observed and estimated effect sizes were 0.36 and 0.17, respectively, indicating some evidence of publication bias.

Meta-analysis on ethnic identity

A total of 17 included studies focused on ethnic identity, including a total number of 2,261 participants ($M = 133$, $SD = 167.81$, range: 20–747; average % of females = 61.13%, $SD = 26.63\%$, range 0–100%; $M_{age} = 14.99$, $SD = 2.10$, range = 11.87–18.70 years), with 1,216 in the intervention condition and 1,045 in the control condition. The average percentage of total ethnic minorities was 87.25% ($SD = 20.67\%$, range 32–100%). Most of the studies were conducted in North America (88.20%), while two in Europe (11.80%), specifically in Italy (Ceccon et al., 2023) and Germany (Juang et al., 2020).

The average duration of the interventions was about four months ($M = 17.78$ weeks, $SD = 23.41$, range 2–96 weeks). The average time-lag duration between baseline and post-assessment was five months ($M = 19.87$, $SD = 23.25$, range 2–96 weeks), with three studies also including an additional follow-up. The interventions included several activities, such as exploring identity issues, mentoring activities, and promoting the consolidation of a coherent and cohesive sense of identity. All these studies used a quasi-experimental design (pre-post), except for one (Ceccon et al., 2023), which used a randomized controlled trial design. Studies used different types of control group conditions: a comparison group of non-participants (52.94%), an active control group involved in parallel and non-inherent to the intervention activities (23.53%), a waiting list (17.65%), and a matched control group (5.88%).

Overall, based on 2,245 participants ($n_{intervention} = 1{,}208$, $n_{control} = 1{,}037$; the number of participants in this section is slightly lower than the total due to missing data in the primary studies), meta-analytic results showed a small and significant effect (Table 3, Figure 4). Heterogeneity across studies was non-

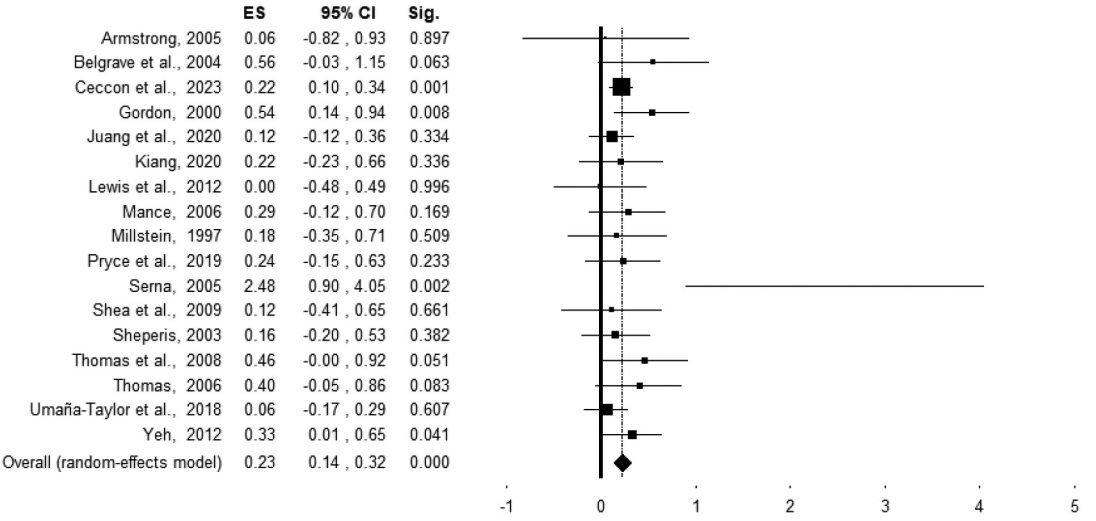

Figure 4. Forest plot of the meta-analysis on overall ethnic identity.

significant and small. Indeed, moderator analyses showed a non-significant impact of the gender balance of the sample ($B = .00$, $p = .853$), the percentage of minorities ($B = .00$, $p = .361$), the mean age of participants ($B = -.00$, $p = .890$), and duration of the intervention ($B = .00$, $p = .299$). Publication bias analyses highlighted a non-significant Egger's test (see Table 3 and Appendix 6 of the Supplementary Materials) and two trimmed studies. However, the difference between the observed and estimated effect sizes (0.26 and 0.24, respectively) was trivial. Thus, it can be concluded that the impact of publication bias was minimal.

Discussion

Developing personal and social identities is challenging, as adolescents and emerging adults need to actively explore different options to find meaningful commitments and make sense of their membership in multiple groups (Crocetti et al., 2023). This developmental challenge can become even more critical in at-risk or marginalized youth (e.g., Ferrer-Wreder et al., 2002) and in ethnic minority groups who also cope with acculturative tasks (e.g., Mastrotheodoros et al., 2021). The current systematic review with meta-analysis aimed to comprehensively identify psychosocial interventions that sought to promote youth personal and social identities in order to enhance their positive development. Based on the comprehensive appraisal of the current state-of-the-art of intervention research on identity, an agenda for future research is proposed.

Effectiveness of interventions on personal and social identities

Personal identity

In this meta-analysis, 34 reports, including 36 studies, met the eligibility criteria. Among them, 17 studies focused on outcomes related to the theoretical frameworks on personal identity (i.e., identity synthesis, Erikson, 1968; identity distress; Berman et al., 2004; identity processes and identity statuses; Marcia, 1966; identity styles; Berzonsky, 1989; and narrative identity; McAdams, 2011). Their overall effectiveness was small-to-moderate.

However, an in-depth analysis of each concept highlighted that only a few studies (from two to six) tackled each specific identity facet, and given their limited statistical power, they often yielded small and non-significant findings. For instance, concerning narrative identity (Tieu, 2009, Study 2; Tseng,

2017) and identity achievement (Armstrong, 2005; Markstrom-Adams et al., 1993, Study 1 & 2; Tieu, 2009, Study 1), results showed moderate but non-significant effect sizes. Overall effect sizes for other identity statuses, as well as for identity processes and styles, were small and non-significant. In contrast, six studies focused on the effects of interventions on identity synthesis (Eichas et al., 2017; Hall, 1990; Juang et al., 2020; Meca et al., 2014; Nooripour et al., 2023; Orbach & Bar-Joseph, 1993) and reported an overall moderate and significant effect. A similar picture was found for identity distress (Liddell & Kurpius, 2014; Lorente, 1999; Meca et al., 2014), with results showing a combined small albeit significant effect.

This overall pattern leads to considerations regarding the "debate" on statistical significance and effect sizes (e.g., Kline, 2013). While primary studies could be underpowered to detect significant results when effect sizes are small, by pooling them together in a meta-analysis it is possible to draw conclusions based on cumulative evidence. In this way, it is possible to transition from a dichotomous approach (i.e., based on differentiating significant versus non-significant results) to an estimation approach (focused on the magnitude of the effects under investigation), and ultimately to a meta-analytic perspective (based on the accumulation of evidence) (Cumming, 2012). This aggregation enhances the statistical power, providing a greater likelihood of detecting a significant overall effect that might be missed in smaller, individual studies. This is a crucial point as small effect sizes that appear to be non-significant in primary studies may end up in not being published (for a comprehensive discussion of publication bias see Rothstein et al., 2005). However, small effect sizes are very common in psychological research, and they can still be highly relevant (Götz et al., 2022). For instance, simulations have shown that even very small effect sizes relative to changes in depression scores before and during the pandemic when applied to an entire population may scale up to be impactful, as they would lead to mental health services becoming overwhelmed with additional new cases (Carey et al., 2023). Thus, there is a strong need for a nuanced and contextualized interpretation of effect sizes (Ellis, 2010).

Taken together, this evidence suggests a call for more intervention research. Specifically, there is a critical need to identify which intervention activities may prove more effective for different facets of identity. In this meta-analysis, a number of different psychosocial interventions were included. Examples of intervention activities included counseling (e.g., Eichas et al., 2017), participatory processes (e.g., S. J. Schwartz et al., 2005), sessions aimed to facilitate exploration of identity issues (e.g., Armstrong, 2005) and making identity choices (e.g., Nooripour et al., 2023). The contexts in which these interventions were delivered were also diverse, with implementations occurring in secondary high schools (e.g., Orbach & Bar-Joseph, 1993), universities (e.g., Meca et al., 2014; Tieu, 2009), and natural settings (Duerden et al., 2009). Thus, given their heterogeneity it was not possible to further delve into the specific effectiveness of different types of interventions.

Also, some interventions targeted at-risk or marginalized groups (e.g., Ferrer-Wreder et al., 2002; Lorente, 1999), whereas others were directed at the general student population (e.g., Meca et al., 2014). Thus, strategies effective for one group may not necessarily apply to the other. Moreover, no psychosocial interventions targeting identity processes encompassed in dual cycle models (Crocetti et al., 2008; Luyckx et al., 2008) were available. Given that these models emphasize the dynamic interaction of identity processes and suggest that various forms of exploration serve distinct functions (i.e., to verify existing commitments or to search for new alternatives; Crocetti, 2017), they might offer new insights for future intervention endeavors.

Social identity

Four studies included in this review focused on social identity outcomes. They spanned from identification with a proximal group (i.e., social identification with classmates, Paricio et al., 2020) to national identities, considering Asian identity (Shechtman & Tanus, 2006) and Arab and Israelian identities (Ho et al., 2021), up to European identity (Prati et al., 2020). Their overall effectiveness was small and varied across studies.

Results of these studies suggested that addressing social identities with groups with whom adolescents have direct experiences, such as the group of classmates (Paricio et al., 2020), may be easier than targeting more abstract groups, such as the superordinate European group (Prati et al., 2020). This evidence is consistent with the fundamental developmental trajectory of social identification, according to which social identification develops from identification with proximal groups to identification with superordinate and, thus, more abstract groups (Albarello et al., 2021). Drawing from these considerations, future interventions could adopt a cascading model, in which identification with superordinate groups (e.g., national, ethnic, European, and human groups), can be promoted by first leveraging on identification with proximal groups (e.g., family, friends, classmates).

Ethnic identity

A more extensive literature examined the effectiveness of psychosocial interventions on ethnic identity. A total of 17 studies showed a small and significant combined effect. The effect sizes of primary studies were relatively consistent, as indicated by the small heterogeneity and lack of significant moderating effects.

Most available interventions targeted ethnic identity only in minority groups, in line with evidence that this identity facet is more salient for ethnic minority youth compared to their majority peers (L. Kiang & Baldelomar, 2018). For instance, the Sisters of Nia was a cultural program specific to African American girls (Belgrave et al., 2004). Similarly, the Project Butterfly was an African-centered intervention (Mance, 2006), whereas the CEDAR program targeted Chinese urban immigrants (Shea et al., 2009), and the Conversation Club was mentoring newcomer youth in Canada (Pryce et al., 2019). These interventions specific to ethnic minority groups were mainly implemented in after-school programs.

In contrast, the Identity intervention was designed as a universal, school-based intervention for both ethnic minority and majority adolescents (Umaña-Taylor et al., 2018). The intervention resulted in a higher posttest ethnic-racial identity resolution for minority adolescents (considered as a whole as the limited sample size precluded comparisons among specific ethnic groups) compared to those in the control condition, indicating a positive "*proximal effect*" observed shortly after the program's conclusion (Sladek et al., 2021, p. 383). Conversely, the intervention also led to increased ethnic identity resolution for White adolescents compared to their White peers in the control group, but this effect became apparent over the year-long follow-up period (i.e., "*sleeper effect*;" Sladek et al., 2021, p. 383). This evidence, taken together with the results of interventions specific to ethnic minorities, points to the importance of further understanding how interventions may unfold differently in different minority and majority groups.

Finally, all included studies focused on ethnic identity. However, youth, especially ethnic minority ones, cope with both developmental and acculturative tasks that imply navigating across several (and often conflictual) alternatives put forth by their cultural heritage community and destination society (e.g., Crocetti et al., 2024). Hence, in future interventions, it would be valuable to explore how to foster bicultural identity integration (i.e., how well individuals feel their ethnic and cultural identities fit together instead of being conflicting and complex to blend, Benet-Martínez et al., 2002). It is important to note that integrated bicultural identity offers individuals a profound sense of belonging, crucial for well-being, social integration, and psychological adjustment (for a meta-analysis, see Nguyen & Benet-Martínez, 2013). Specifically, for young people, the capacity to harmonize various cultural identities is closely linked to mental health and psychosocial well-being (e.g., Piña-Watson et al., 2013). Thus, designing interventions targeting bicultural identity integration will likely promote positive youth development.

Advancements, gaps, and an agenda for future research

Calls underling the need to design interventions to promote healthy identity formation to enhance young people's well-being and adaptation started 35 years ago (Archer, 1989) and have been reiterated over time (Archer, 1994, 2008). The current systematic review with meta-analysis, along with other studies included in this special issue focused on identity interventions, suggests that these calls have been heard, and several interventions have been proposed and tested in the past decades. Nevertheless, a critical appraisal of their effectiveness indicates that the road is still uphill. Advancements are acknowledged below considering gaps that could be tackled in future research.

Uncovering underlying mechanisms: the potential of daily dynamics and micro-processes

Some studies in this review addressed underlying mechanisms, often focusing on how leveraging some identity facets could impact other identity dimensions and overall well-being. For instance, Meca et al. (2014) tested a mediation model in which the intervention aimed to promote identity consolidation and well-being via the reduction of identity distress. Umaña-Taylor et al. (2018) examined a cascading mediation model in which the program was expected to lead to increases in ethnic identity exploration, subsequent increases in ethnic identity resolution, and, in turn, higher global identity cohesion, higher self-esteem, lower depressive symptoms, and better grades. These studies provide evidence of underlying mechanisms.

Future intervention research could highly benefit from incorporating theoretical and methodological advancements from basic research on real-time identity processes (for a special issue, see Kunnen & Sugimura, 2021). It is worth studying how micro-processes and daily changes that can be prompt during an intervention might lead to short-, medium-, and long-term outcomes. In this vein, the vibrant research on the interplay between identity processes at a micro-level, such as those captured in daily fluctuations (Becht et al., 2021) or during real-time interactions (Gmelin & Kunnen, 2021), and identity processes at a macro-level (Klimstra et al., 2010) can inform evidence-based interventions.

What works for whom? Integrating person-level and study-level moderators

Consistent with one of the primary objectives of intervention research, which aims to identify effective strategies tailored to specific populations (Solomon et al., 2009), several studies examined potential moderating factors within this review. Alongside socio-demographic variables such as gender and age (e.g., Eichas et al., 2017), other contextual moderators were also tackled. For instance, the Identity project demonstrated greater effectiveness in fostering ethnic-racial identity among adolescents from families where ethnic socialization was more prevalent (Sladek et al., 2021). These are examples of person-level moderators investigated within primary studies.

In addition to these, the current meta-analysis allowed us to consider several possible moderators related to the characteristics of the participants and the interventions. However, it should be noted that the test of some study-level moderators could not be conducted due to the limited number of available studies and insufficient statistical power. For instance, it was impossible to test if interventions developed in the US and Canada to promote ethnic-racial identity were effective also in European contexts in which ethnic and cultural diversity is sharply increasing but "race is a taboo" (Juang et al., 2021; Jugert et al., 2022).

As more interventions become available across different contexts, future research could benefit from advancements in meta-analytic methodologies (Crocetti, 2016). In particular, the Individual Participant Data (IPD) approach (Stewart et al., 2019), along with the diffusion of open science practices, can set new venues for delving into moderating effects. The IPD approach, unlike the traditional methods that rely on summary data extracted from study publications, involves directly obtaining original research data from the principal investigators. These datasets are then screened, centrally re-analyzed, and synthesized in meta-analyses2019. Access to raw datasets affords a broader scope and flexibility in analysis planning, enabling the test of person-level alongside study-level

variables as potential moderators (Hua et al., 2017). Such an approach allows for a more nuanced examination of what interventions are effective for whom and under which conditions.

Does investing in identities pay off? Toward benefit-cost approaches

Interventions reviewed in this contribution targeted personal and social identities not only to sustain adolescents and emerging adults in coping with this fundamental developmental task but also to enhance their overall well-being and adjustment (e.g., Eichas et al., 2017; S. J. Schwartz et al., 2005). Indeed, a wide corpus of evidence indicates that personal and social identities matter for well-being. These positive associations have been documented for an extensive array of individual outcomes, including both the "dark side" represented by sleep problems and somatic symptoms (e.g., Xie et al., 2023), internalizing (e.g., Bogaerts et al., 2021), and externalizing (e.g., Mercer et al., 2017) problem behaviors and the "bright side" featured by multiple indicators of health and well-being (e.g., De Lise et al., 2024). Furthermore, identities have been related to the quality of interpersonal (e.g., van Doeselaar et al., 2016) and intergroup (e.g., Albarello & Rubini, 2012) relationships and youth social responsibility and civic engagement (e.g., Crocetti et al., 2012).

Hence, leveraging identities may have substantial benefits at both individual and societal levels (Hoffman & Umaña-Taylor, 2023). For this reason, to further support the quest for efficient and scalable interventions that can be adapted, replicated, or expanded on a larger scale without compromising their effectiveness or quality, it is necessary to invest also in cost-effectiveness analyses (Lombard et al., 1998). Such analyses can weigh the costs and benefits of interventions (Boardman et al., 1996; Lee et al., 2012). For instance, they could highlight how funding identity interventions could reduce depressive symptoms that, in turn, might reduce healthcare costs. Thus, it is crucial to connect to econometric methods to estimate the benefits of interventions targeting personal and social identities at both individual and societal levels.

The interplay of personal and social identities: from theory to intervention research

This systematic review was theoretically grounded in a developmental social-psychological perspective examining the dynamic interplay of personal and social identities (Crocetti et al., 2023). However, the eligible studies included in the review tackled personal *or* social identity facets. Thus, future interventions could draw from theoretical reflections (Crocetti et al., 2018) and empirical evidence (e.g., Albarello et al., 2018) indicating that personal and social identities can reinforce each other in a positive loop. In this respect, personal and social identities can be conceived as a "fundamental symbolic tool that individuals use to adapt to the multiple domains of their lives" (Crocetti et al., 2018, p. 306). Thus, if interventions address both personal and social identities, they could equip adolescents and emerging adults with key developmental assets.

Conclusions

This systematic review highlighted substantial advancements in intervention research on identity over the last decades. Numerous interventions targeting personal, social, and ethnic identity have been proposed. While their effectiveness tended to be limited in primary studies, the meta-analysis revealed significant results with small-to-moderate effect sizes. Although promising, this evidence suggests that the journey ahead remains challenging, and an agenda for future research has been proposed. Hopefully, it can provide a further impulse to design evidence-based psychosocial interventions to support adolescents and emerging adults in coping with the core developmental task of answering the personal and social identity questions, "Who am I?" and "Who are we?."

Note

1. When the age range was larger than the one specified, the mean age of the sample was used to decide if the study was deemed to be eligible.

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Data availability statement

Data used for this meta-analysis will be shared upon reasonable request.

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