

Intimacy Development in Late Adolescence: Longitudinal Associations with Perceived Parental Autonomy-Support and Adolescents' Self-Worth

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Abstract

The present longitudinal study tested for the role of perceived parental autonomy-support and late adolescents' self-worth in their intimacy development. A sample of 497 Belgian late adolescents ($M_{\text{age}} = 17.9$, 43.5% girls) participated in this two-wave study. Results indicated that perceived autonomy-supportive parenting did not relate significantly to change in adolescents' experienced intimacy (in terms of closeness and mutuality), but was associated with a decrease in unmitigated agency (an excessive focus on the self) and unmitigated communion (an excessive focus on the other) across time. Adolescents' self-worth predicted an increase in experienced intimacy and a decrease in unmitigated agency and communion, and the initial level of experienced intimacy predicted an increase in self-worth. Finally, results suggested that adolescents' self-worth may mediate some of the longitudinal relations between perceived parental autonomy-support and adolescents' intimate functioning. No evidence was found for moderation by romantic involvement, gender or age.

KEYWORDS: intimacy, autonomy-support, self-worth, unmitigated agency, unmitigated communion

Introduction

The development of a sense of intimacy within relationships with friends and romantic partners has been described as a crucial developmental task for adolescents and young adults (Arnett, 2000; Erikson, 1968; Sullivan, 1953). Multiple theories have proposed that one's experiences in intimate relationships are to some extent determined by previous experiences within the parent-child relationship (e.g., Bowlby, 1988; Brown & Bakken, 2011; Collins & Steinberg 2006; Zimmer-Gembeck, Madsen, & Hanisch, 2011). However, longitudinal studies examining these links of parent-child relationships with adolescents' development of intimacy are relatively underrepresented. In a recent review (Zimmer-Gembeck, Van Petegem, Ducat, Clear, & Mastro, 2018), we located only about a dozen longitudinal studies that have examined how parents' behaviors may shape the development of their children's intimate relationships with friends and partners in later life. Moreover, several theories (Gray & Steinberg, 1999; Smetana, Campione-Barr, & Metzger, 2006) highlight how parents' autonomy support in particular should be critical for adolescents' experiences of intimacy within close relationships. However, despite the availability of new, more precise, definitions and assessments of autonomy and parental autonomy-support (e.g., Soenens & Vansteenkiste, 2010; Van Petegem, Vansteenkiste, & Beyers, 2013), autonomy-supportive parenting has not previously been integrated into research on adolescent and early adult intimacy development. Thus, the first aim of this study was to directly test the proposition that perceived autonomy-supportive parenting would promote the development of intimacy within close relationships with friends and partners. Thereby, we focused not only on adolescents' experienced closeness and mutuality as a positive aspect of one's intimacy development, but also focused on unmitigated communion (an excessive focus on the other) and unmitigated agency (an excessive focus on the self) in order to examine

maladaptive manifestations of intimate functioning (Helgeson & Fritz, 1999). A second aim of this study was to investigate the role of adolescents' self-worth, as previous research suggests that a person's self-worth is an important determinant of one's intimate relationship satisfaction (Erol & Orth, 2016). In addition, both developmental models of the construction of the self (e.g., Harter, 1999) and Attachment Theory (e.g., Bowlby, 1969) suggest that that one's self-image would explain why the quality of the parent-child relationship would have implications for the child's relationships outside the family. Therefore, we examined bidirectional associations between feelings of self-worth and adolescent intimacy, and we tested whether self-worth mediated the longitudinal relation between perceived autonomy-supportive parenting and adolescent intimacy.

Adolescent Intimacy Revisited

Intimacy can be conceptualized as the degree to which a person experiences a sense of closeness and mutuality within a relationship, and is able to express his/her personal thoughts and feelings vis-à-vis the other person (Reis & Shaver, 1988; Sullivan, 1953). In other words, intimacy is defined in terms of feelings of felt security, trust, mutual caring, and self-disclosure (e.g., Collins & Steinberg, 2006; Sharabany, 1994), and implies valuing and seeking closeness towards the other, one's acceptance and openness for the (sometimes intense) emotions that are indissolubly part of an intimate relationship, one's capability for mutual reciprocity and self-disclosure, and one's sensitivity towards the other's needs and feelings (Collins & Sroufe, 1999). Testifying to the importance of this developmental task, previous research found that adolescents' experiences of intimacy in best friend and romantic relationships relates positively to psychosocial functioning (e.g., Buhrmester, 1990). Moreover, such experiences during adolescence would form an important experiential basis for establishing a qualitative and

affectionate relationship with a romantic partner during adulthood (e.g., Connolly & Goldberg, 1999; Furman & Wehner, 1994).

Given the current definition of intimacy, adolescents' intimate functioning only appears problematic when there is a low ability to be close to others and when support of others is dismissed. However, deficits in intimacy also may appear in other ways, for instance when one becomes fully absorbed in a relationship. Indeed, as argued by Shulman and colleagues (e.g., Shulman, Laursen, Kalman, & Karpovsky, 1997), intimacy deficits may manifest in two ways, that is, as being excessively focused on meeting one's own needs even when in a relationship, but also as an excessive focus on the other or the relationship at the expense of one's own well-being. In the present study, we operationalize these two possibilities by drawing upon the literature on unmitigated agency and unmitigated communion (Helgeson & Fritz, 1999, 2000). Specifically, Helgeson and Fritz elucidated upon Bakan's (1966) work on the distinction between the two fundamental modalities of agency and communion. Agency reflects a focus on the self and on separation, whereas communion reflects a focus on others and on connectedness. Importantly, adaptive functioning implies that one's agency is "mitigated" (i.e., softened) by communion, and vice versa. *Unmitigated agency*, then, entails an excessive focus on the self to the exclusion of others, and is characterized by arrogance, hostility, cynicism, and a negative view of others (Helgeson & Fritz, 2000). *Unmitigated communion*, on the other hand, reflects a focus on others to the exclusion of the self, and is characterized by self-neglect and an overinvolvement with others' problems (Fritz & Helgeson, 1998). Both unmitigated agency and communion have been associated with maladaptive behavior. Unmitigated agency has been associated with more distress and low self-esteem, externalizing problems, and a manipulating interpersonal style (e.g., Ghaed & Gallo, 2006; Helgeson & Fritz, 1999). Unmitigated communion has been associated

with more depressive symptoms and lowered self-worth, as well as other interpersonal difficulties (e.g., intrusiveness; Aube, 2008; Fritz & Helgeson, 1998).

Is Perceived Parental Autonomy Support a Longitudinal Predictor of Intimate Functioning?

Autonomy support is a parenting dimension that pertains to the degree to which parents encourage their children to function volitionally and to act upon personally endorsed values and interests (Soenens et al., 2007; Zimmer-Gembeck, Ducat, & Collins, 2011). Specifically, autonomy-supportive parents are more empathic towards their children, offer relevant choice whenever possible, and provide a meaningful explanation when choice is limited (Grolnick, 2003; Joussemet, Landry, & Koestner, 2008). Controlling parenting, by contrast, involves the use of pressure and coercion to force one's children to behave, think or feel in particular ways, for instance through guilt induction or love withdrawal (Barber, 1996; Grolnick & Pomerantz, 2009), and is shown to be the conceptual opposite of autonomy-support (Soenens, Vansteenkiste, & Sierens, 2009; Soenens & Vansteenkiste, 2010).

Abundant research confirms the beneficial outcomes associated with autonomy-supportive (relative to controlling) parenting across several life domains. Indeed, several cross-sectional and longitudinal studies have documented the interrelation between perceived autonomy-supportive (vs. controlling) parenting and subjective well-being (e.g., Brenning, Soenens, Van Petegem, & Vansteenkiste, 2015; Rowe, Zimmer-Gembeck, Rudolph & Nesdale, 2015). In addition, previous work documented significant cross-sectional associations between autonomy-supportive (relative to controlling) parenting and indicators of adolescents' interpersonal functioning, including social competence (e.g., Cook, Buehler & Fletcher, 2012; Soenens & Vansteenkiste, 2005), relational aggression (Soenens, Vansteenkiste, Goossens,

Duriez, & Niemiec, 2008), and one's capacity to disclose about negative emotions to one's romantic partner (Roth & Assor, 2012).

Although autonomy-support is argued to represent an important determinant of adolescents' intimacy development (e.g., Zimmer-Gembeck et al., 2018), we are not aware of research explicitly testing whether autonomy-support is a longitudinal predictor of adolescents' intimate functioning. Yet, meaningful associations are expected on the basis of different theoretical perspectives. For instance, in line with Attachment Theory (Allen & Land, 1999; Bowlby, 1988; Mikulincer & Shaver, 2007), autonomy-support can be seen as an important determinant of a secure attachment as it would play a key role in supporting children's exploratory behavior. Indeed, attachment figures function as a secure base from which to explore the environment in an autonomous manner (e.g., Allen & Hauser, 1996; Whipple, Bernier, & Mageau, 2011). Thus, fostering autonomous and exploratory behavior would be crucial for engaging in qualitative and authentic relationships outside the family (e.g., Collins & Sroufe, 1999; Connolly & Goldberg, 1999). Hence, the first goal of the present study was to test whether perceived autonomy-support plays a role in adolescents' intimacy development.

The Role of Adolescents' Self-Worth

A second goal of the present longitudinal study was to test for the role of adolescents' global self-worth, with self-worth referring to a personal evaluation of one's general worth as a person (e.g., Harter, 1999; Rosenberg, 1965). Specifically, we aimed to examine the bidirectional associations between adolescents' self-worth and the three manifestations of intimate functioning. Thereby, one would expect that a high-quality intimate relationship would have positive implications for adolescents' self-worth (Sullivan, 1953). In line with this, there is longitudinal evidence (Keefe & Berndt, 1996), showing that the quality of one's friendship in

early adolescence has implications for specific areas of one's self-esteem (but not for one's global self-worth). Moreover, a longitudinal study also uncovered the long-term negative consequences of unmitigated communion (Helgeson, Escobar, Siminerio, & Becker, 2007) in terms of lowered self-worth over time. However, this investigation only studied unmitigated communion and unmitigated agency without reference to specific relationships, considering them more akin to personality characteristics. In contrast, our approach is to investigate unmitigated communion and agency within the intimate relationship with the best friend or romantic partner.

Moreover, we aimed to test a fully transactional model, which allowed us not only to examine the effects of intimate functioning on self-worth, but the opposite effects as well. This is important as self-esteem has wide-ranging benefits, including implications for one's relational functioning. For example, individuals with better self-esteem report greater relationship satisfaction (Hendrick, Hendrick, & Adler, 1988) and individuals with higher self-esteem report happier and closer romantic relationships (Erol & Orth, 2016). In addition, individuals who are lower in self-esteem would be more sensitive to rejection, thereby perceiving and interpreting the partner's behavior more negatively, which in turn predicts declining relationship satisfaction (Murray, Holmes, & Griffin, 2000; Murray, Rose, Bellavia, Holmes, & Kusche, 2002). Although many of these studies of self-esteem and relationships have been conducted with adults, it is quite possible that an impoverished self-concept could foreshadow problems with one's intimacy development during adolescence as well (Zimmer-Gembeck, 2016).

In addition, we not only tested bidirectional associations between self-worth and adolescents' intimate functioning, but we also examined the mediating role of adolescents' self-worth in the longitudinal association between perceived autonomy-supportive parenting and

adolescents' experiences of intimacy. In fact, both developmental models of the construction of the self (e.g., Harter, 1999; Harter, Bresnick, Bouchey, & Whitesell, 1997; Thomaes, Brummelman, & Sedikides, 2017) as well as Attachment Theory (e.g., Bowlby, 1969; Bretherton, 1991; Hart, Shaver & Goldenberg, 2005; Mikulincer, 1995) propose that parents' rearing practices would have important repercussions for the child's developing working model of the self. That is, when parents are supportive, consistent, and accepting (which are parenting practices conceptually related to autonomy-supportive parenting), children will come to internalize a view of themselves as being worthy of love (e.g., Sroufe, 2002; Thompson, 2006). Attesting explicitly to the importance of parental autonomy support for adolescent self-worth, previous research found that encouraging autonomy in parent-adolescent interactions relates to higher levels of self-esteem (e.g., Allen, Hauser, Bell, & O'Connor, 1994; Chirkov & Ryan, 2001). According to Attachment Theory, these internal representations, then, in turn would have important implications for one's way of engaging in future relationships outside the family, as testified by the literature reviewed above (e.g., Erol & Orth, 2016; Zimmer-Gembeck, 2016). In sum, evidence suggests that self-worth should have a foundation in supportive parent-child relationships and that self-worth, in turn, is a factor that would have implications for the development of high-quality relationships outside the home. Therefore, we expected that adolescents' self-worth might provide a bridge between parental autonomy-support and intimacy development, helping to explain why autonomy-support is associated with adolescents' experiences within intimate relationships with best friend or romantic partner.

The Present Study

The aim of the present longitudinal investigation was to test bidirectional associations between perceived autonomy-supportive (vs. controlling) parenting and adolescents' intimate

functioning (in terms of both healthy and maladaptive intimate functioning), as well as between adolescents' self-worth and intimate functioning. Models were also tested to examine whether adolescent self-worth mediated the longitudinal association between perceived autonomy-support and adolescents' intimate functioning. We specifically focused on adolescents' experiences of intimacy within the context of a romantic relationship, or within the context of a relationship with their best friend when not involved in a romantic relationship. Best friend relationships and romantic relationships do share a number of essential features (as compared to, for instance, parent-child relationships), including the egalitarian, symmetrical and voluntary nature of both types of relationships, and their importance throughout adolescence for emotional support and for exploring and validating identity; in other words, both types of relationships are important contexts for adolescents to have their need for relatedness met and satisfied (see e.g., Collins & Van Dulmen, 2006; Feiring, 1999; Furman & Buhrmester, 1992; Furman & Rose, 2015; Radmacher & Azmatia, 2006). Yet, it is possible that adolescents may experience intimacy to a different degree in romantic relationships as compared to best friend relationships. Several developmental researchers also point to the differences between these relationship types, such as the heightened emotionality (such as love and jealousy), and the issue of sexuality and of exclusivity that would be more characteristic for romantic relationships (e.g., Feiring, 1996; Giordano, Manning, & Longmore, 2006).

To highlight that there are possible differences in romantic and friendship relationships, we explicitly tested for differences in terms of adolescents' romantic involvement (i.e., being involved in a romantic relationship or not), thereby modeling romantic intimacy for those with romantic partners and friendship intimacy for those without a romantic partner. We expected significant mean-level differences for adolescents who are (vs. who are not) involved in a

romantic relationship, in terms of higher (vs. lower) experienced intimacy and unmitigated communion. However, at the same time, we expected the strength of associations of adolescent intimacy with autonomy-supportive parenting and self-worth would not differ depending on whether participants reported intimacy in the context of a romantic or a best friendship relationship. In other words, we expected that romantic involvement would not moderate any of the model paths.

We also focused on possible age and gender differences. In terms of age, we compared late adolescents (15-18 years) with young adults (19-22 years) because of their different developmental contexts (e.g., compulsory vs. higher education, living situation; Goossens & Luyckx, 2007). We expected significant mean-level differences between late adolescents vs. young adults in terms of experienced intimacy, as their close (and especially romantic) relationships tend to become even more serious and profound as adolescents enter young adulthood (Brown, 1999; Seiffge-Krenke, 2003). However, we did not expect to find evidence for moderation by age group, as a supportive parent-child relationship and a positive sense of self would contribute to more adaptive functioning (i.e., higher levels of intimacy, lower levels of unmitigated communion and agency) in close relationships for both late adolescents and young adults. Regarding adolescents' gender, in line with previous research (e.g., Helgeson & Fritz, 1999; McNelles & Connolly, 1999; Orth & Robins, 2014), we expected boys to report significantly higher levels of self-worth and unmitigated agency, while girls would report significantly higher levels of intimacy and unmitigated communion. However, at the same time, we did not expect gender to significantly moderate any of the model paths (i.e., we expected no difference in how autonomy-supportive parenting and self-worth would contribute to intimacy between young men and young women).

Method

Participants and Procedure

Our sample comprised 497 Belgian youth (43.5% girls), living in a Dutch-speaking part of Belgium. At Time 1 (T1), participants' age ranged between 15 and 22 years ($M = 17.90$, $SD = 1.20$). Most of the participants reported coming from intact (68%) or divorced (26%) families, whereas others were from families with one parent deceased (4%) or another family structure (2%). The large majority of our sample (97%) was of Belgian nationality. Further, most of the participants (80%) were in high school (25% academic track, 29% technical track, 25% vocational track, 1% arts track), 17% followed a higher education (10% university, 7% college) and 3% had a job or was searching for a job. 38% of the participants were involved in a romantic relationship, with an average length of 12 months (ranging between 1 and 48 months). These descriptive statistics are quite similar to the population statistics for Belgian adolescents at this age (Goossens & Luyckx, 2007). At Time 2 (T2), 1.5 years later, 221 participants (44.5%) completed the same questionnaires. At that point, age ranged between 17 and 23 years ($M = 19.39$, $SD = 1.20$). Further, 19% of the participants were still at high school (10% academic track, 4% technical track, 4% vocational track, 1% arts track), whereas 70% followed a higher education (31% university, 39% college) and 11% reported having or searching for a job. Further, 42% of the participants reported being involved in a romantic relationship, with an average length of 20 months (ranging between 1 and 66 months). Data were drawn from a larger longitudinal study in which 707 adolescents initially participated. These data were gathered at four schools during a regular class period. At that moment, participants were informed about the longitudinal nature of the study, and were invited to provide their e-mail and postal address. One year later (i.e., T1 in the present study), questionnaires were sent out through e-mail and post

service. For the present study, we only included adolescents who participated at this wave, because only starting from this wave, all our central variables were assessed. Participation in the study was voluntary and anonymity was guaranteed, and informed consents were obtained at each wave. As is the case in most longitudinal studies, there was quite some drop-out between T1 and T2 of the present study. Therefore, we performed Little's (1988) MCAR-test on our variables of interest to examine whether there were systematic differences between those who did vs. did not participate at T2. This test yielded a non-significant result, $\chi^2(120) = 137.72, p = .13$, which suggests that there is no significant relation between the propensity of data to be missing and the measures used in this study. Accordingly, we used the Expectation Maximization (EM; Schafer, 1997) algorithm to estimate missing values.

Measures

All measures were completed at T1 and T2. Reliability coefficients of each measure are presented in Table 1. The three questionnaires examining adolescents' functioning in their intimate relationship focused either on the relationship with their romantic partner (when they were involved in a romantic relationship) or with their best friend when the participant was not involved in a romantic relationship.

Perceived parental autonomy-support. Perceived parental support of volitional functioning was measured using a combination of two measures. That is, we administered the 7-item Autonomy-Support subscale of the Perceptions of Parenting Scale (Grolnick, Ryan, & Deci, 1991; e.g., "Whenever possible, my parents allow me to choose what to do"), which is a well-validated measure of parental autonomy-support (e.g., Soenens et al., 2007). Further, Barber's 8-item Psychological Control Scale – Youth Self Report (Barber, 1996) was used to assess controlling parenting. This frequently used questionnaire taps into parents' use of intrusive and

manipulative parenting strategies (e.g., “My parents are less friendly to me if I don’t see things the way they do”). For both subscales, participants responded on a 5-point Likert-type scale (1 = *completely untrue*, 5 = *completely true*). We calculated a composite score to obtain a general index of perceived autonomy-supportive (vs. controlling) parenting style. As in previous research (e.g., Soenens et al., 2009), this was done by reverse-coding the items of controlling parenting, and averaging these reverse-coded items with the items of the Autonomy-Support scale.

Self-worth. The global self-worth subscale from the Self-Perception Profile for Adolescents (Harter, 1988) was used to measure adolescents' self-worth. We used an adapted response format, as proposed and validated by Wichstrom (1995). In the original item format, for each of the five items, respondents are asked to make a choice between two statements. In the adapted version, respondents rate the five statements on a 5-point Likert-type scale (1 = *completely untrue*, 5 = *completely true*).

Intimate functioning. To evaluate adolescents' intimate functioning, we focused on their experienced intimacy (in terms of closeness and mutuality), as well as on two indicators of maladaptive intimacy development (i.e., unmitigated communion and unmitigated agency). First, we assessed adolescents' experiences of intimacy in their close relationship (i.e., either with their romantic partner or with their best friend) through a 10-item version of the Intimate Friendship Scale (Sharabany, 1994), which was previously used by Van Petegem, Beyers, Vansteenkiste, and Soenens (2012). A sample item reads “I feel free to talk to him/her about almost everything”. As in previous research (e.g., Sharabany, Eshel, & Hakim, 2008), participants responded on a 7-point Likert-type scale (1 = *completely disagree*, 7 = *completely agree*). Second, we used the 9-item Revised Unmitigated Communion Scale (Fritz & Helgeson, 1998) to measure adolescents'

unmitigated communion in their intimate relationship, that is, to which degree they are excessively focused on the other to the exclusion of the self. For the purpose of the present study, items were reformulated such that they referred to the intimate relationship (e.g., “For me to be happy, I need him/her to be happy”). Respondents answered on a 7-point Likert-type scale (1 = *completely disagree*, 7 = *completely agree*). Finally, unmitigated agency in their intimate relationship was measured with a slightly modified version of the Unmitigated Agency subscale of the Extended Version of Personal Attributes Questionnaire (Spence, Helmreich, & Holahan, 1979). This 8-item scale assesses an excessive orientation towards the self to the exclusion of others. In the original questionnaire, respondents indicated the degree to which they possess certain attributes (e.g., arrogant, hostile). Items also were reformulated to refer to the intimate relationship (e.g., “I am sometimes arrogant to him/her”). Again, participants answered on a 7-point Likert-type scale (1 = *completely disagree*, 7 = *completely agree*).

Results

Preliminary Analyses

Table 1 presents the means, standard deviations and correlations between all variables. Given the large sample size, the statistical significance level was set at $p < .01$. First, we tested for change across time in the study variables, as well as for mean level differences as a function of romantic involvement, age group (late adolescents: 15-18 years, vs. young adults: 19-22 years), gender, and family structure. We performed a repeated-measures MANOVA with our study variables as dependent variables, adding the background variables as between-subject variables, time as a within-subject variable, and interactions between time and the background variables.

As for the between-subject variables, the multivariate effects of gender, age group and romantic involvement were statistically significant [$F(5,481) = 10.23, p < .001, \eta^2 = .10$, for romantic involvement; $F(5,481) = 3.55, p = .004, \eta^2 = .03$, for age group; $F(5,481) = 12.73, p < .001, \eta^2 = .12$, for gender]. The multivariate effect of family structure was not significant [$F(5,481) = 2.29, p = .05$]. At the univariate level, it was found that participants involved in a romantic relationship scored higher on experienced intimacy [$F(1,485) = 33.55, p < .001, \eta^2 = .07, M_{\text{involved}} = 6.13$ vs. $M_{\text{not involved}} = 5.80$] and on unmitigated communion [$F(1,485) = 31.06, p < .001, \eta^2 = .06, M_{\text{involved}} = 4.98$ vs. $M_{\text{not involved}} = 4.59$], as compared to those not involved in a romantic relationship. As for age, young adults were found to score higher on perceived autonomy-support [$F(1,485) = 12.71, p < .001, \eta^2 = .03, M_{\text{late adolescents}} = 3.71$ vs. $M_{\text{young adults}} = 3.88$] and self-worth [$F(1,485) = 9.69, p = .002, \eta^2 = .02, M_{\text{late adolescents}} = 3.58$ vs. $M_{\text{young adults}} = 3.76$] as compared to late adolescents. Finally, boys scored lower on experienced intimacy [$F(1,485) = 22.43, p < .001, \eta^2 = .04, M_{\text{boys}} = 5.83$ vs. $M_{\text{girls}} = 6.10$] and higher on unmitigated agency [$F(1,485) = 18.31, p < .001, \eta^2 = .04, M_{\text{boys}} = 3.10$ vs. $M_{\text{girls}} = 2.81$], compared to girls.

As for the within-subject variables, there was a multivariate effect of time [$F(5,481) = 12.48, p < .001, \eta^2 = .12$]. Specifically, adolescents reported more perceived autonomy-support [$F(1,485) = 11.93, p < .001, \eta^2 = .02, M_{T1} = 3.77$ vs. $M_{T2} = 3.83$] and more experienced intimacy [$F(1,485) = 18.90, p < .001, \eta^2 = .04, M_{T1} = 5.89$ vs. $M_{T2} = 6.04$] at T2 relative to T1. Yet, some of these changes across time were moderated by romantic involvement, age group and gender, as we observed significant multivariate effects of the interaction of time with romantic involvement [$F(5,481) = 7.58, p < .001, \eta^2 = .07$], age group [$F(5,481) = 8.80, p < .001, \eta^2 = .08$] and gender [$F(5,481) = 5.74, p < .001, \eta^2 = .06$]; the interaction with family structure was not significant [$F(5,481) = 1.15, p = .33$]. Specifically, univariate analyses indicated that an increase in

experienced intimacy especially was apparent for those not involved in a romantic relationship [$F(1,485) = 22.66, p < .001, \eta^2 = .05, M_{T1} = 5.66$ vs. $M_{T2} = 5.94$], as compared to those involved in such a relationship [$M_{T1} = 6.13$ vs. $M_{T2} = 6.13$], whereas a decrease in unmitigated communion were observed among adolescent involved in a romantic relationship [$F(1,485) = 30.89, p < .001, \eta^2 = .06, M_{T1} = 5.11$ vs. $M_{T2} = 4.84$], and not among those who were not [$M_{T1} = 4.53$ vs. $M_{T2} = 4.65$]. As for the interaction with age group, there was a decrease in unmitigated agency for young adults [$F(1,485) = 38.04, p < .001, \eta^2 = .07, M_{T1} = 3.04$ vs. $M_{T2} = 2.77$] but not for late adolescents [$M_{T1} = 2.96$ vs. $M_{T2} = 3.07$]. Finally, as for the interaction with gender, results indicated an increase in experienced intimacy for boys [$F(1,485) = 13.45, p = .001, \eta^2 = .03, M_{T1} = 5.71$ vs. $M_{T2} = 5.96$] but not for girls [$M_{T1} = 6.08$ vs. $M_{T2} = 6.11$], and a decrease in self-worth for boys [$F(1,485) = 6.93, p = .009, \eta^2 = .01, M_{T1} = 3.75$ vs. $M_{T2} = 3.69$] but not for girls [$M_{T1} = 3.59$ vs. $M_{T2} = 3.63$]. Given these findings, we controlled for gender, age group and romantic involvement in our subsequent analyses.

Main Analyses

Our main research questions were examined through cross-lagged modeling in Mplus 7.00 (Muthén & Muthén, 2012). A first structural model tested the bidirectional associations between perceived autonomy-supportive parenting and adolescents' intimate functioning. Thereby, we estimated (a) the stability in our variables (i.e., the autoregressive paths), (b) the within-time correlations between each of the constructs, and (c) the bidirectional cross-lagged paths between autonomy-support and the intimacy variables. Then, we estimated a second structural model testing for bidirectional associations between self-worth and intimate functioning. In our third structural model, we tested for the mediating role of self-worth in the longitudinal association between autonomy-support and adolescents' intimate functioning.

Following the recommendations of Cole and Maxwell (2003), we estimated regression paths between the independent variable (i.e., autonomy-support) at T1 and the mediator (i.e., self-worth) at T2, and between the mediator at T1 and the dependent variable (i.e., the intimacy variables) at T2, while also controlling for within-time associations and stability in the variables of interest. In this case, the product between the regression coefficients would give an estimate of the mediational effect of autonomy-support on the intimacy variables (Cole & Maxwell, 2003). Model fit was evaluated on the basis of a combined evaluation of the comparative fit index (CFI), standardized root-mean-square residual (SRMR) and the root-mean-square error of approximation (RMSEA). A cut-off of .90 for CFI, .08 for RMSEA, and .10 for SRMR are supposed to indicate a reasonable fit. CFI higher than .95, RMSEA below .06 and SRMR lower than .08 would be indicative of a good-fitting model (Hu & Bentler, 1999).

Perceived autonomy-support and intimate functioning. The cross-lagged model examining the longitudinal associations between perceived parental autonomy-support and adolescents' intimate functioning fitted the data well [$\chi^2(24) = 86.24, p < .001, CFI = .95, RMSEA = .07, SRMR = .04$]; the results are presented in Figure 1. Specifically, higher initial levels of perceived autonomy-support predicted relative decreases in unmitigated communion and unmitigated agency across time. However, perceived parental autonomy-support at T1 did not predicted changes in adolescents' experiences of intimacy across time. None of the intimacy variables at T1 predicted change in perceived autonomy-supportive parenting across time.

Self-worth and intimate functioning. To examine the cross-lagged associations of adolescents' intimate functioning with personal adjustment, we first estimated a model testing the bidirectional associations between intimate functioning and self-worth. The model fitted the data well [$\chi^2(24) = 70.00, p < .001, CFI = .97, RMSEA = .06, SRMR = .04$]; the results are presented

in Figure 2. In this model, we found bidirectional associations between self-worth and experienced intimacy, with higher initial levels of self-worth predicting increases in intimacy across time, and experienced intimacy predicting increases in self-worth across time. Further, higher initial levels of self-worth predicted decreases in unmitigated communion and agency across time, but not vice versa.

The mediating role of self-worth. Our next model tested whether self-worth mediated the longitudinal associations between perceived autonomy-supportive parenting and intimate functioning. The model fitted the data well [$\chi^2(39) = 194.54, p < .001, CFI = .92, RMSEA = .09, SRMR = .05$] and is depicted in Figure 3. Across time, higher initial levels of perceived parental autonomy-support predicted relative increases in adolescents' self-worth. Further, in line with the findings depicted in Figure 2, higher initial levels of self-worth predicted increases in experienced intimacy and decreases in unmitigated communion and unmitigated agency. Point estimates of the indirect effect of perceived autonomy-support on adolescents' intimate functioning through self-worth are significant for experienced intimacy ($b = .02, p = .005$), unmitigated communion ($b = -.02, p = .005$), and unmitigated agency ($b = -.01, p = .03$; MacKinnon, Warsi, & Dwyer, 1995), suggesting that adolescent self-worth mediates the longitudinal association between perceived autonomy-support and adolescents' intimate functioning.

Moderation by romantic involvement, age group and gender. In our last set of analyses, we examined whether romantic involvement, age group and gender moderated the associations tested in the above models. This was done through a series of multigroup comparisons, where we compared a constrained model (all structural paths constrained across the two groups) with an unconstrained model (all paths set free). Comparison between the

constrained and unconstrained model was based on the difference in CFI (Δ CFI), which should be lower than .010 (Cheung & Rensvold, 2002). Romantic involvement did not moderate any of the three structural models, as the Δ CFI values varied between .000 and .003, which suggests that the obtained structural relations do not differ significantly for those who are vs. those who are not involved in a romantic relationship. The same was true for age group (Δ CFI between .002 and .003) and gender (Δ CFI between .001 and .006), suggesting that the uncovered structural associations also were not significantly different for boys or girls and for late adolescents or young adults¹.

Discussion

Developing a sense of genuine intimacy entails an important developmental task for adolescents and young adults (e.g., Erikson, 1968; Sullivan, 1953). Moreover, meeting this developmental task would be founded in positive parent-adolescent relationships and in the development in a global sense of self-worth as they transition into the later years of adolescence (e.g., Bowlby, 1988; Brown & Bakken, 2011; Collins & Steinberg 2006). In the present study, we examined this dynamic longitudinally. In doing so, we not only focused on adaptive intimate functioning (in terms of experienced closeness and mutuality), but we also examined associations with two maladaptive manifestations of intimate functioning, that is, unmitigated communion (i.e., being overly focused on the other to the exclusion of the self) and unmitigated agency (i.e., being overly focused on the self to the exclusion of the other). Expanding on this model, we also examined whether relationship status, gender, and age moderated model pathways. In general, our hypotheses were supported, with perceived parental autonomy-support predicting relative decreases in unmitigated agency and unmitigated communion, and adolescents' self-worth significantly contributing to changes in each of the indicators of

adolescents' intimate functioning. Also, we found evidence for mean-level differences in several of our central variables as a function of romantic involvement, age group, and gender, but we found no evidence for moderation of the model pathways depending on whether participants did or did not have romantic partners, whether participants were boys or girls, or whether participants were adolescents or young adults. We discuss five of the key findings in more detail below.

First, we found that adolescents who perceived more autonomy-support from their parents showed a relative decrease across time in unmitigated communion and unmitigated agency in their intimate relationships. These findings indicate that dynamics within adolescents' family of origin may have implications for the development of close relations outside the family (Collins & Sroufe, 1999), and especially suggest that parents' degree of autonomy-support may contribute in significant ways. This is important, as parental autonomy support is a feature that has been relatively neglected in longitudinal research examining the role of the parent-adolescent relationship for adolescents' intimacy development (Zimmer-Gembeck et al., 2017). Moreover, associations were found for participants reporting about a romantic partner or a friend, for both boys and girls, and for younger and older groups of participants. These findings are in line with one of the basic ideas in Attachment Theory, that is, that one's close relationships outside the family are partly shaped by the history of interactions with parents (e.g., Ainsworth, 1989; Bowlby, 1969, Fraley, 2002).

Second, although autonomy support from parents was associated with unmitigated communion and unmitigated agency, parental autonomy support was not significantly associated with our third measure of intimate functioning, which assessed general experienced intimacy with a romantic partner or a best friend. One possibility is that the foundations of healthy

intimate functioning are established earlier in adolescence (e.g., De Goede, Branje, & Meeus, 2009) and little temporal associations occur after this. In support of this idea, we did find concurrent associations between parental autonomy support and adolescents' experienced intimacy, such that adolescents' who reported more autonomy support also felt more closeness and mutuality in their intimate relationship. A second possibility is that parenting dimensions other than autonomy support are more important for adolescents' experienced intimacy (such as involvement; e.g., Conger, Cui, Bryant, & Elder Jr., 2000), whereas it is parental autonomy support that is most relevant for unmitigated communion and agency specifically. Possibly, this could be because unmitigated communion and agency involve disturbances in balancing intimacy with autonomy, and therefore parental autonomy support may be particularly important. Future research should measure additional aspects of parenting (such as involvement and conflict) to more fully consider these possibilities.

Third, our path models suggest that adolescents' self-worth plays an explanatory role in understanding the quality of close relationships outside the family. In particular, perceived autonomy-support from parents predicted an increase in adolescents' self-worth across time, whereas, at the same time, a higher initial level of self-worth predicted a relative increase in experienced intimacy and a relative decrease in unmitigated communion and unmitigated agency across time, which suggests longitudinal mediation (Cole & Maxwell, 2003). Although our conclusions about mediation are limited by having only two waves of data, these findings suggest that self-worth mediates the longitudinal association between autonomy-supportive parenting and adolescents' intimate functioning. In future studies, researchers could investigate the underlying mechanisms accounting for why adolescents low in self-worth show deficits in their intimate functioning. For instance, youth with low self-worth may be more sensitive to

rejection (Zimmer-Gembeck, 2016; Zimmer-Gembeck, Trevaskis, Nesdale, & Downey, 2014) or might develop cognitive distortions about being unworthy of the other person's love (Murray et al., 2000, 2002), putting them at risk for problems in their interpersonal relationships.

Fourth, we also found that adolescents who reported better intimate functioning showed a greater relative increase in their global self-worth over the time. However, this association was no longer significant when perceived parental autonomy support was taken into account. Nevertheless, the significant association that was found between intimate functioning and increasing global self-worth is consistent with theories proposing that experiencing a sense of relatedness and genuine connectedness is important for human flourishing (e.g., Baumeister & Leary, 1995; Deci & Ryan, 2000). Thereby, it is noteworthy that these associations were not moderated by adolescents' involvement in a romantic relationship. Such findings indicate that experiencing intimacy and genuine relatedness is positive for self-worth among all adolescents, regardless of whether this is experienced in a friendship or in a romantic relationship (Furman & Hand, 2006).

Fifth, we tested for differences in terms of romantic involvement, age group, and gender. In line with previous research, we found evidence for mean-level differences in several of our central variables. Most notably, we found that levels of experienced intimacy and unmitigated communion differed depending on whether adolescents reported about a romantic relationship or a best friend, with experienced intimacy and unmitigated communion higher in romance. This could indicate that adolescents who are involved in a romantic relationship are more emotionally implicated in this relationship (e.g., Giordano et al., 2006). However, because we only captured intimacy in romance or in a best friendship (for those with no romantic relationship), it might also be the case that this difference reflects person-level differences, with those in romantic

relationships more occupied with intimacy generally than are those without a romantic partner. Also, consistent with previous literature (e.g., on gender role orientations; Helgeson & Fritz, 2000), boys were found to score lower on experienced intimacy and higher on unmitigated agency. We then tested whether relationship status, age group, and gender moderated any of the model paths. Throughout these analyses, we found no evidence for significant moderation in any of the models. These findings indicate that the contribution of autonomy-supportive parent-adolescent interactions and positive self-views to healthy intimacy development does not differ significantly for late adolescents compared to young adults, for boys compared to girls, and for those who reported about their intimate functioning in the context of a romantic relationship compared to in a best friendship.

Limitations and Directions for Future Research

Notwithstanding a number of strengths, including the sample size and the longitudinal design, the present study also had some methodological limitations. One limitation is the exclusive use of adolescent self-report. To remedy this, information from parents (e.g., about their perceptions of their parenting style) and/or from their best friend or romantic partner (e.g., about their perceptions of the intimate relationship) could be collected in future research (see e.g., Ehrlich, Cassidy, Lejeuz, & Daughters, 2014). Future studies also could rely upon different methodologies, such as interviews or observations of dyads (e.g., McNelles & Connolly, 1999). A second limitation involves the use of only two waves of data to test for mediation. Although such data provides a better insight into the temporal sequencing of psychological processes compared to cross-sectional data, a fully recursive model with at least three time points would be required to truly test for longitudinal mediation (Cole & Maxwell, 2003).

A third limitation concerns the lack of differentiation between perceived maternal vs. paternal autonomy-support. Indeed, previous research (Scharf & Mayseless, 2008) suggests that mothers and fathers may play a different role in certain aspects of adolescents' intimacy development. Further, the self-system is a complex and multidimensional construct (e.g., Harter, 1999; Marsh, 1990). Future research could give more attention to this complexity, for instance by focusing on one's self-evaluations and self-perceptions in the interpersonal domain specifically (e.g., by examining the role of social competence; Scharf & Mayseless, 2001), instead of focusing on global self-worth. In addition, future research also may want to differentiate explicitly between experiences in best friendship vs. romantic relationships. This would allow researchers to test whether intimacy issues are initially worked out in the context of friendship relationships, and whether these acquired competences then would be transferred to romantic relationships (e.g., Collins & Sroufe, 1999; Furman, 1999; Furman & Wehner, 1994; Sullivan, 1953). Finally, future research also could take into account indicators of fragility of self-esteem, such as stability of one's self-esteem (Kernis, 2003), in addition to one's global level of self-worth, as previous research documented consistent associations between high but fragile self-esteem and maladaptive interpersonal behavior (see Heppner & Kernis, 2011).

Conclusion

Taken together, the present longitudinal study offers a number of important insights into adolescents' development of intimacy. Specifically, the parent-adolescent relationship seems to represent an important context for the development of healthy intimate relationships outside the family, as perceived parental autonomy-support predicted decreases across time in unmitigated communion and unmitigated agency. Moreover, adolescents' self-worth also played an important role, as it predicted increases in adolescents' experienced intimacy and decreases in unmitigated

agency and unmitigated communion, and results suggested that self-worth mediated the longitudinal relation between autonomy-supportive parenting and adolescents' functioning in close relationships. In conclusion, a supportive parenting context and a positive sense of self seems to set the stage for developing healthy and genuine intimate relationships throughout the late adolescent years.

Footnotes

¹ We would like to note that for some multigroup analyses (e.g., moderation by age), the group sizes differed considerably, which may have obscured the identification of certain moderation effects.

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Tables

Table 1

Reliability Coefficients, Means, Standard Deviations, and Correlations Among the Study Variables

	<i>M (SD)</i>	α	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Autonomy-Support T1	3.75 (.60)	.88									
2. Autonomy-Support T2	3.81 (.53)	.92	.83**								
3. Self-Worth T1	3.68 (.69)	.81	.38**	.41**							
4. Self-Worth T2	3.65 (.63)	.86	.40**	.46**	.83**						
5. Experienced Intimacy T1	5.82 (.87)	.92	.25**	.29**	.26**	.31**					
6. Experienced Intimacy T2	5.60 (.53)	.89	.08	.18**	.32**	.41**	.65**				
7. Unmitigated Communion T1	4.73 (.99)	.89	-.06	-.01	-.03	-.01	.55**	.22**			
8. Unmitigated Communion T2	4.69 (.67)	.85	-.25**	-.22**	-.19**	-.12*	.37**	.39**	.64**		
9. Unmitigated Agency T1	3.00 (.92)	.85	-.17**	-.24**	-.17**	-.22**	-.24**	-.30**	-.08	-.08	
10. Unmitigated Agency T2	2.96 (.73)	.83	-.28**	-.32**	-.24**	-.32**	-.23**	-.31**	-.05	-.17**	.68**

Note. * $p < .01$. ** $p < .001$. T1 = Time 1, T2 = Time 2.

Figures

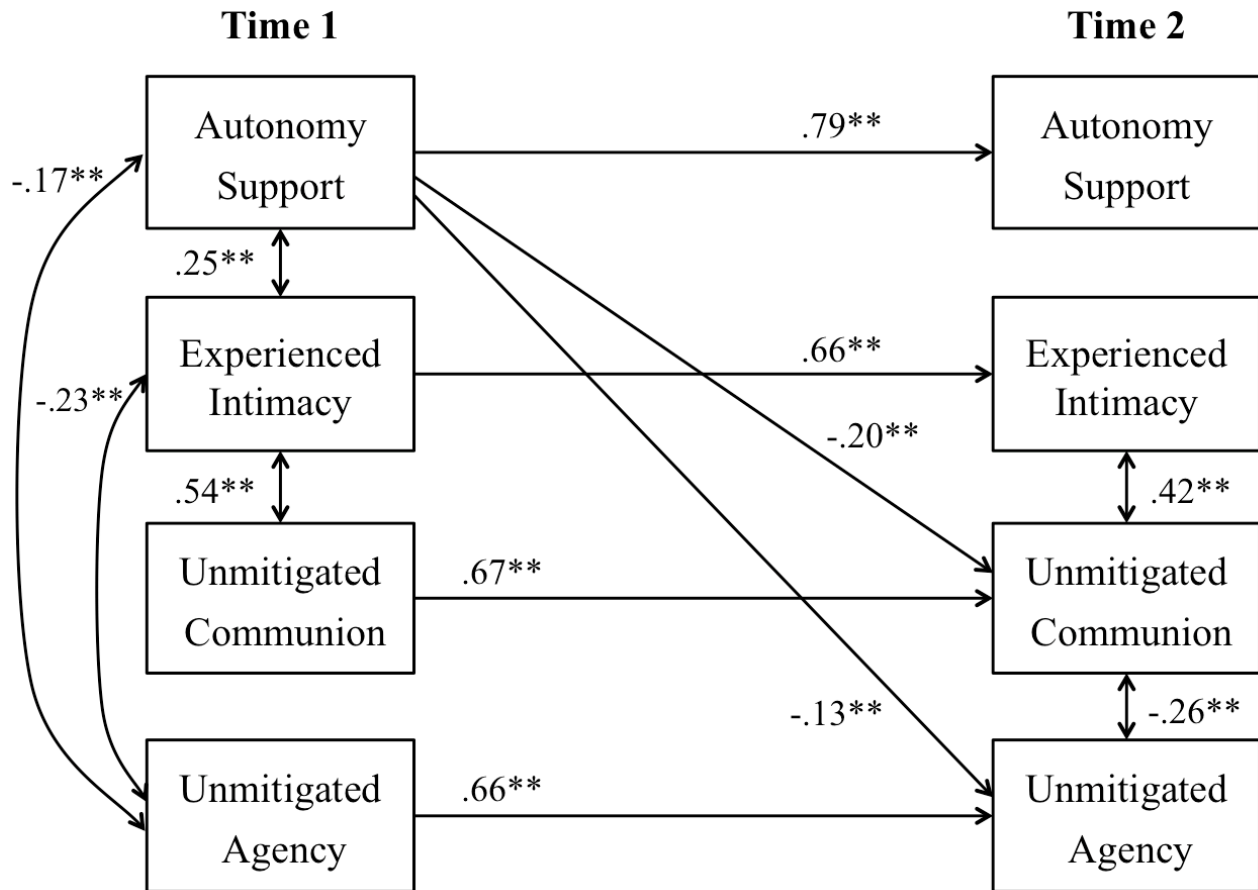


Figure 1. Cross-lagged model depicting the longitudinal associations between perceived autonomy-supportive parenting and adolescent intimate functioning. All paths between the variables shown were tested, but for reasons of clarity, the effects of the control variables and non-significant paths are not presented. $*p < .01$. $**p < .001$.

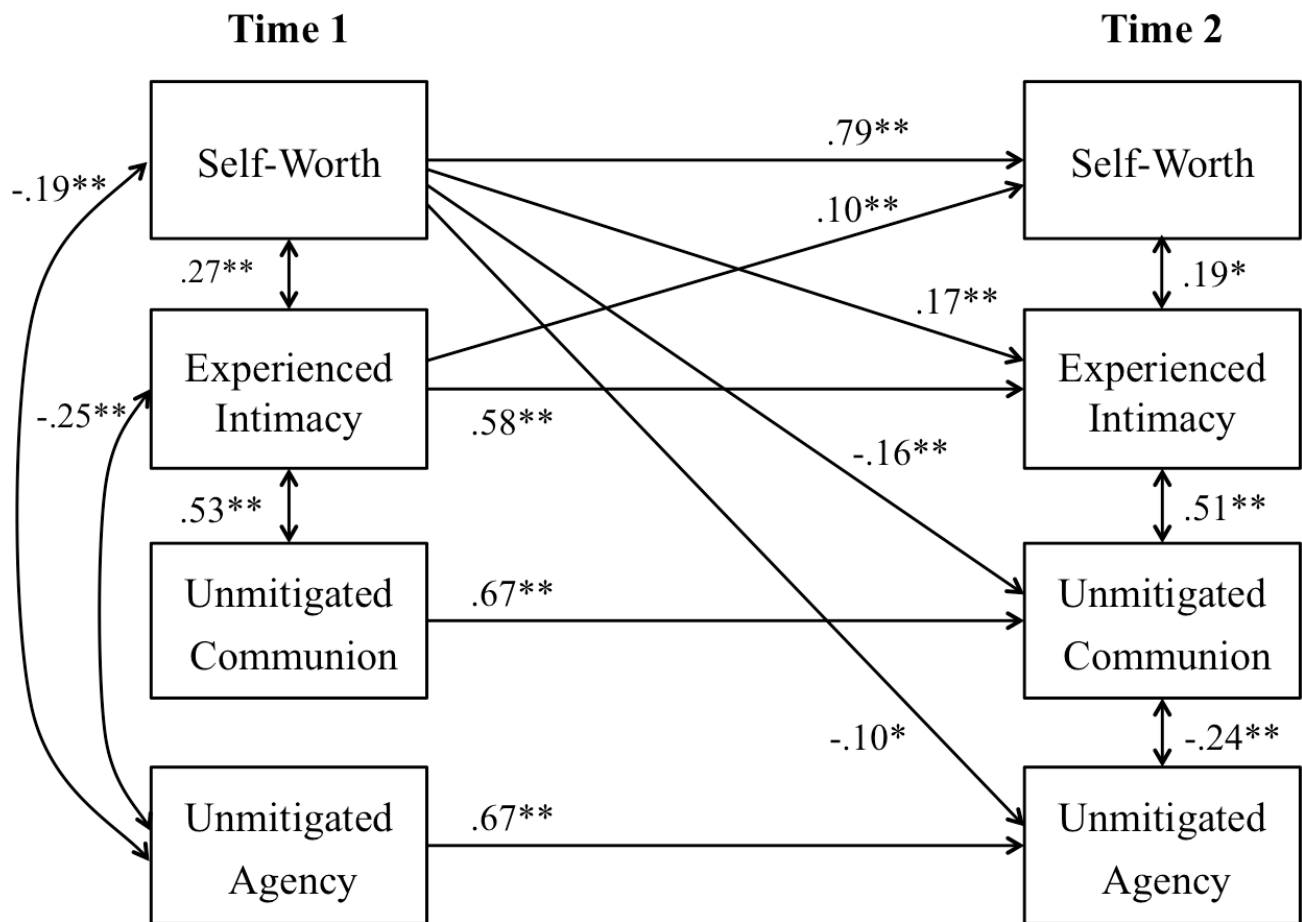


Figure 2. Cross-lagged model depicting the longitudinal associations between adolescents' self-worth adolescent intimate functioning. All paths between the variables shown were tested, but for reasons of clarity, the effects of the control variables and non-significant paths are not presented. $*p < .01$. $**p < .001$.

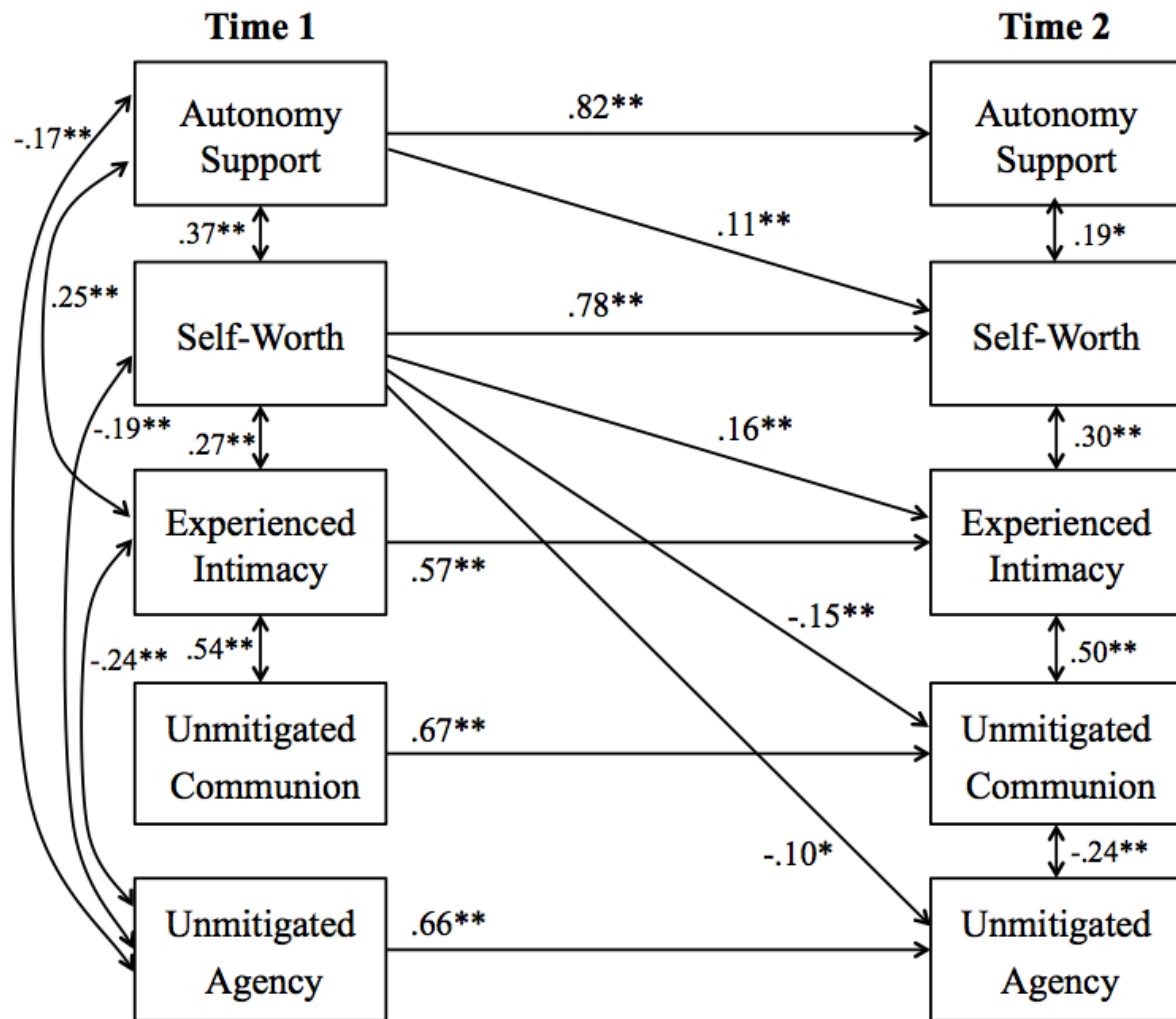


Figure 3. Mediation model depicting the intervening role of adolescents' self-worth in the longitudinal associations between perceived autonomy-supportive parenting and adolescent intimate functioning. All paths between the variables shown were tested, but for reasons of clarity, the effects of the control variables and non-significant paths are not presented. * $p < .01$.

** $p < .001$.