

## Quality of sibling relationships and identity formation: Identification processes as a mediator

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### ABSTRACT

Identity formation is an adolescent developmental task that continues throughout life. Its process cannot be separated from the role of the significant person for adolescents, including siblings. Therefore, this study aims to examine the identification process (modeling and de-identification) as a mediator in the relationship between sibling relationships in identity formations commitment, in-depth exploration, and reconsideration of commitment. Four hundred adolescents aged 12-21 years participated in this study. The Indonesian version of the Utrecht-Management of Identity Commitments Scale (U-MICS), the Sibling Relationship Questionnaire (SRQ), and the Sibling Influence Scale (SIS) were used to measure identity formation, sibling relationship quality, and identification process. Data analysis was performed using regression analysis and the Sobel test. The results showed that the identification process could be a mediator between the quality of sibling relationships and identity formation. Also, the differences in quality among siblings lead adolescents to take different paths of the identification process, modeling, or de-identification, which impact the process of identity formation differences. Adolescents involved in modeling can learn and imitate older siblings to achieve an optimal identity. On the other hand, adolescents involved in de-identification find it more difficult and experience more challenges in achieving an optimal identity.

### Introduction

Identity formation is a central psychosocial developmental task during adolescence and continues throughout life (Branje, de Moor, Spitzer, & Becht, 2021). Furthermore, Erikson stated the dynamics of identity formation as described by identity achievement and identity confusion (Montgomery, 2020). Identity achievement occurs when adolescents determine what they are, how they are, and the goals they want to achieve. Individuals who achieve a coherent identity tend to have positive psychosocial development such as having a positive self-concept (Morsünbül, Crocetti, Cok, & Meeus, 2016), meaningful life (Schwartz et al., 2015), life satisfaction (Morsünbül, 2013; Piotrowski, 2018; Ritchie et al., 2013; Sugimura et al., 2015), and tend to engage in helping behavior (Crocetti, Benish-Weisman, & McDonald, 2020; Nelson & Padilla-Walker, 2013). On the contrary, identity confusion occurs when adolescents cannot determine goals and commitment to various identity choices considered the basis of individual adult identity (Montgomery, 2020). Individuals who experience identity confusion show psychosocial developmental deviations such as

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experiencing anxiety (Crocetti et al., 2015; Michikyan, 2020; Morsünbül et al., 2016), depression (Waterman et al., 2013; Weisskirch, 2019), and tend to engage in unlawful behavior (Crocetti et al., 2020; Schwartz et al., 2015).

The concept of adolescent identity formation has undergone development. Several theoretical models have been proposed to understand the process of adolescent identity formation (Schwartz, Zamboanga, Luyckx, Meca, & Ritchie, 2013). In the last decade, Crocetti, Rubini, & Meeus (2008) developed a three-dimensional model of identity that includes commitment, in-depth exploration, and reconsideration of commitment. In addition, Crocetti (2018) explained that initially, adolescents have an identity commitment that comes from their parents, which later they explored in-depth by seeking relevant information related to identity choices. The results lead adolescents to experience satisfaction or dissatisfaction with their identity commitments. Therefore, when adolescents feel dissatisfaction with their previous identity commitments, they improve or choose a more satisfying identity choice.

A previous study on identity formation in Indonesia discovered that its process could not be separated from the significant role of other people as it relates to adolescents (Muttaqin, 2020). This study result indicates that parents, friends, boyfriends, and girlfriends play a substantial role for adolescents during the process of identity formation (Kindelberger, Mallet, & Galharret, 2020; Ominyi, Adepeju, & Matthew, 2019; Trost, Eichas, Ferrer-Wreder, & Galanti, 2020). Nevertheless, parents play a significant role in adolescent identity formation, specifically while approaching the early stage (Crocetti & Meeus, 2014). Moreover, in the family, intra-generational interactions also occur between siblings and intergenerational interactions between parents and children (Kenny & Cook, 2020).

The study on the role of siblings in identity formation is limited compared to the parents. Presently, only two studies stated the role of a sibling in identity formation (Crocetti, Branje, Rubini, Koot, & Meeus, 2016; Wong, Branje, VanderValk, Hawk, & Meeus, 2010). Whereas siblings also have a role in adolescent development, specifically when they act as friends and even best friends, trustworthy people, and role models (Howe, Persram, & Bergeron, 2020). In addition, siblings also provide emotional support, acceptance, intimacy, and warmth (Wikle, Jensen, & Hoagland, 2018). Therefore, it is not surprising that siblings' presence helps adolescents achieve optimal self-adjustment and emotions such as having self-concept, self-esteem, autonomy, and establishing warm relationships with friends and other people (Gungordu & Hernandez-Reif, 2020; Smorti & Ponti, 2018). Their presence also has a positive impact on adolescents on academic performance and career development (Aguirre & Matta, 2021; Gurantz, Hurwitz, & Smith, 2020; Nicoletti & Rabe, 2019; Rogers, Guyer, Nishina, & Conger, 2018; Vleuten, Weesie, & Maas, 2020).

Adolescents with siblings, specifically elderly ones, are more likely to have a model in behavior. Older siblings can serve as role models and sources of emotional support (Howe et al., 2020; Hughes, McHarg, & White, 2018). Without exception, their presence serves as role models and sources of support when performing the process of identity formation (Ruiz, 2012). However, the older siblings act as models to the younger ones when there is a positive sibling relationship and have certain competencies (Whiteman, McHale, & Soli, 2011). This condition is based on attachment theory, which prioritizes emotional attachment as a manifestation of positive sibling relationships (Fraleay & Tancredy, 2012), allowing the younger siblings to ask questions, exchange ideas, and win insights from older siblings in identity formation. On the other hand, when siblings do not have positive relationships, misunderstandings and poor communication will occur, making them difficult to form their identity (Buist, Deković, & Prinzie, 2013).

The relationship between sibling relations and identity formation may not be direct because the younger siblings identify the older sibling first (Killoren, Alfaro, & Kline, 2016). Wong et al. (2010) discovered that adolescents achieve optimal identity formation by modeling older siblings. This modeling is based on social learning, allowing siblings to observe and learn from each other (Howe et al., 2020; Hughes et al., 2018). The modeling process directs younger siblings to learn and imitate the behaviors displayed by older siblings (Whiteman, Bernard, & McHale, 2010). This process leads them to explore various identity options and determine commitments that the older sibling represents.

In contrast, Alfred Adler described the process of de-identification, which refers to the tendency for siblings to define themselves differently from one another (Vleuten et al., 2020; Whiteman et al., 2010). Younger siblings involved in de-identification aim to protect themselves from social comparisons with older siblings and as an effort to show their uniqueness than older siblings (Killoren et al., 2016; Whiteman, McHale, & Crouter, 2007). This condition leads the younger sibling to explore different identity options with the older sibling. In addition, younger siblings may have difficulty determining identity commitment due to the absence of examples and direction from older siblings. In this situation, this study focuses on younger siblings based on the theory and previous study, which states that an older sibling has a more significant influence on a younger sibling than otherwise.

Previous studies discovered that sibling relationships' quality is related to identity formation (Crocetti et al., 2016; Wong et al., 2010). However, the latest study conducted by Killoren et al. (2016) discovered that quality sibling relationships direct younger siblings through the modeling process compared to the de-identification of older siblings. This finding shows different mechanisms in the relationship between sibling and identity formation mediated by the identification process. Therefore, this study aims to examine the identification process, namely modeling and de-identification as mediators in the relationship between sibling relations and identity formation, including commitment, in-depth exploration, and reconsideration of commitment.

## Method

### *Participants*

Participants in this study consisted of 400 adolescents aged 12-21 years ( $M = 19.67$   $SD = 2.463$ ) who had at least one older sibling with a maximum age gap of 4 years. Furthermore, they consisted of 106 (26.50%) and 294 (73.50%) adolescent boys and girls, respectively. Participants were 45, 107, and 248, which indicates (11.25%) early, (26.75%) middle, and (62.00%) late adolescents, respectively. Also, data were collected using convenience sampling techniques by contacting participants directly and disseminating information on social media such as Twitter, Instagram, Line, and WhatsApp. Participants willing to be involved in the study are asked to fill out an informed consent and study questionnaire, presented online through a google form.

### *Measures*

#### **Identity Formation**

The Indonesian version of the Utrecht-Management of Identity Commitments Scale (U-MICS; Muttaqin, 2017) consists of 26 items used to assess identity formation. Also, it consists of three subscales such as commitment (10 items, for example, "My education makes me feel sure of myself"), in-depth exploration (10 items, for example, "I make a lot of effort to keep finding out new things about my best friend"), and reconsideration of

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commitment (6 items, for example, "In fact, I'm looking for a different education"). The U-MICS response uses five options ranging from 1 (strongly disagree) to 5 (strongly agree). In this study, U-MICS has a reliability coefficient of .857 (CITC = .253 - .644) for the commitment subscale, .689 (CITC = .227 - .512) for the in-depth exploration sub-scale, and .781 (CITC = .406 - .571) for the reconsideration of commitment subscale.

### **Quality of Sibling Relationships**

The warmth/closeness subscale of the Sibling Relationship Questionnaire (SRQ; [Furman & Buhrmester, 1985](#)) consists of 27 items used to assess the quality of sibling relationships. Furthermore, it uses seven behavioral indicators of sibling closeness: prosocial behavior, intimacy, companionship, similarity, attention, admiration of the sibling, and affection. Sample of items, for example, "How much do you and this sibling tell each other things you don't want other people to know?" and "How much is there a strong feeling of affection (love) between you and this sibling?". Responses to the warmth/closeness subscale of SRQ use five response options ranging from 1 (hardly at all) to 5 (extremely much). SRQ was adapted to Indonesian using forward-back translation following guidelines from [International Test Commission \(2017\)](#). In this study, the warmth/closeness subscale of the SRQ has a reliability coefficient of .960 (CITC = .403 - .750).

### **Identification Process**

The Sibling Influence Scale (SIS; [Whiteman, Bernard, & McHale, 2010](#)) consists of 18 items used to assess their identification process. Furthermore, it consists of two sub-scales such as modeling (8 items, for example, "From watching my sister/brother, I have learned how to do things") and de-identification (10 items, for example, "I try to be different from my sister/brother"). The SIS response uses five options ranging from 1 (never) to 5 (very often). SIS was adapted to Indonesian by involving two translators from English to Indonesian, two reviewers, and two translators from Indonesian to English. The adaptation process follows the guidelines of the [International Test Commission \(2017\)](#). In this study, SIS has a reliability coefficient of .910 (CITC = .551 - .810) and .872 (CITC = .294 - .763) for the modeling and de-identification subscale, respectively.

### **Data Analysis**

Data analysis was performed through the IBM SPSS version 25 program to test the study hypothesis, namely the role of modeling and de-identification as mediators in the relationship between the quality of sibling relationships and identity formation. The mediator analysis was conducted using the approach of [Baron and Kenny \(1986\)](#) by performing regression analysis, which includes: (1) the quality of the sibling relationship to modeling/de-identification (path a), (2) the quality of the sibling relationship (path c') and modeling/de-identification (path b) to commitment/in-depth exploration/reconsideration of commitment, and (3) the quality of the sibling relationship to commitment/in-depth exploration/reconsideration of commitment (path c). In addition, the Sobel test ([Sobel, 1982](#)) was conducted to determine the direct and indirect role of the quality of sibling relationships. Modeling/de-identification is stated to play a mediator role in the relationship between the quality of sibling relationships with commitment/in-depth exploration/reconsideration of commitment when the indirect significance role is less than .05.

**Results**

Table 1 shows the results of regression analysis which discovered that the quality of the relationship with siblings predicts the identification process of both modeling ( $R^2 = .636, \beta = .798, p < .001$ ) and de-identification ( $R^2 = .045, \beta = -.212, p < .001$ ). Modeling also predicts the adolescent identity formation on the dimensions of commitment ( $R^2 = .147, \beta = .185, p < .05$ ) and in-depth exploration ( $R^2 = .142, \beta = .178, p < .05$ ). However, modeling fails to predict the adolescent identity formation on the reconsideration of commitment dimension ( $R^2 = .047, \beta = .059, p > .05$ ). De-identification predicts the formation of adolescent identity on the dimensions of commitment ( $R^2 = -.036, \beta = .174, p < .001$ ), in-depth exploration ( $R^2 = -.054, \beta = .256, p < .001$ ), and reconsideration of commitment ( $R^2 = -.072, \beta = .338, p < .001$ ). In addition, the results of regression analysis also show that the quality of sibling relationships can predict commitment ( $R^2 = .052, \beta = .185, p < .001$ ), in-depth exploration ( $R^2 = .079, \beta = .282, p < .001$ ), and reconsideration of commitment ( $R^2 = .012, \beta = -.108, p < .05$ ). Figure 1 shows the relationship between sibling relationship and each dimensions of identity formation with identification process as mediator.

Table 1

*Regression Analysis the Quality of Sibling Relationships, the Identification Process, and Identity Formation*

Variable	$R^2$	$\beta$	B	S.E.	t	p
SR => Modeling (path a)	.636	.798	.963	.519	26.378	.001
SR => De-identification (path a)	.045	-.212	-.222	.730	-4.336	.001
Modeling => Commitment (path b)	.147	.185	.125	.563	2.295	.022
Modeling => In-depth exploration (path b)	.142	.178	.110	.508	2.250	.001
Modeling => Reconsideration (path b)	.047	.059	.053	.859	.709	.479
De-identification => Commitment (path b)	-.036	.174	.135	.558	3.533	.001
De-identification => In-depth exploration (path b)	-.054	.256	.182	.493	5.376	.001
De-identification => Reconsideration (path b)	-.072	.338	.391	.811	7.013	.001
SR => Commitment (path c)	.052	.227	.185	.040	4.651	.001
SR => In-depth exploration (path c)	.079	.282	.210	.036	5.861	.001
SR => Reconsideration of commitment (path c)	.012	-.108	-.131	.060	-2.165	.031

Note S.R. = Sibling relationship

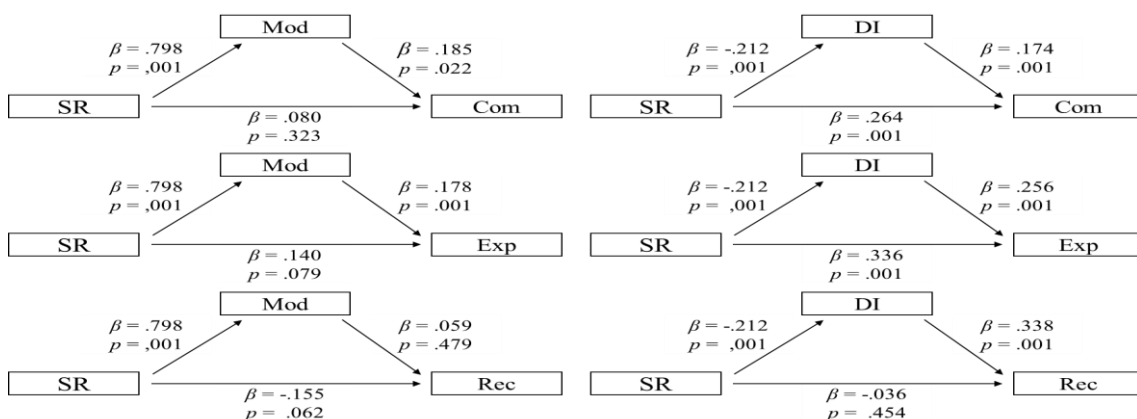


Figure 1. Regression analysis the quality of sibling relationships, the identification process, and identity formation

Note SR = Sibling relationship, Mod = Modeling, DI = De-identification, Com = Commitment, Exp = In-depth exploration, Rec = Reconsideration of commitment

The direct effect of the quality of sibling relationships is reported in Table 2. The quality of sibling relationships cannot directly predict the three dimensions of adolescent identity formation, namely commitment (direct effect = .065,  $t = .990$ ,  $p > .05$ ), in-depth exploration (direct effect = .059,  $t = 1.759$ ,  $p > .05$ ), and reconsideration of commitment (direct effect = -.187,  $t = -1.870$ ,  $p > .05$ ) when controlling for modeling. However, the results of the Sobel test (Table 2) discovered that modeling acts as a mediator in the relationship between the quality of sibling relationships and identity formation on the dimensions of commitment (indirect effect = .120,  $z = 2.285$ ,  $p < .05$ ) and in-depth exploration (indirect effect = .106,  $z = 2.240$ ,  $p < .05$ ). On the other hand, when de-identification is controlled, the quality of sibling relationships has a direct effect on commitment (direct effect = .215,  $t = 5.360$ ,  $p < .05$ ) and in-depth exploration (direct effect = .251,  $t = -3.340$ ,  $p > .05$ ). Furthermore, de-identification acts as a mediator in the relationship between the quality of sibling relationships and commitment (indirect effect = -.030,  $z = -2.696$ ,  $p < .05$ ), in-depth exploration (indirect effect = -.040,  $z = -3.340$ ,  $p < .05$ ), and reconsideration of commitment (indirect effect = -.087,  $z = -3.361$ ,  $p < .05$ ).

Table 2

*Direct and Indirect Effect of the Quality of Sibling Relationships toward Identity Formation through the Identification Process*

Variable	Value	S.E.	t/z	p
Modeling as mediator				
SR => Commitment (path c')	.065	.563	.990	.323
SR => In-depth exploration (path c')	.059	.508	1.759	.079
SR => Reconsideration of commitment (path c')	-.187	.859	-1.870	.062
SR => Modeling => Commitment	.120	.053	2.285	.022
SR => Modeling => In-depth exploration	.106	.047	2.240	.025
SR => Modeling => Reconsideration of commitment	.056	.079	.708	.479
De-identification as mediator				
SR => Commitment (path c')	.215	.558	5.360	.001
SR => In-depth exploration (path c')	.251	.493	7.067	.001
SR => Reconsideration of commitment (path c')	-.044	.811	-.750	.454
SR => Modeling => Commitment	-.030	.011	-2.696	.007
SR => Modeling => In-depth exploration	-.040	.012	-3.340	.001
SR => Modeling => Reconsideration of commitment	-.087	.023	-3.366	.001

Note S.R. = Sibling relationship

## Discussion

This study examines the identification process as a mediator in the relationship between the quality of sibling relationships and identity formation. The results found that the indirect effect of the quality of sibling relationships through the identification process towards identity formation was more significant than the direct effect. The results discovered that the modeling identification process is a mediator between the quality of sibling relationships and identity formation on the dimensions of commitment and in-depth exploration. In addition, de-identification mediates the quality of sibling relationships with the three dimensions of identity formation, namely commitment, in-depth exploration, and reconsideration of commitment. These results show that the quality of relationships with siblings that indicate positive relationships facilitates adolescents to model their older siblings to achieve optimal self-identity formation. On the other hand, when adolescents de-identify siblings because of negative relationships, they will experience a more complicated process of identity

formation. Therefore, this shows that the quality of relationships with relatives leads to the difference in the identification process, resulting in different identity resolutions.

Although there have been no similar studies examining the mediator variables between the quality of relationships with siblings and identity formation, this study supports a previous study that discovered that sibling relationships play a role in identity formation (Wong et al., 2010). In addition, Crocetti et al. (2016) also found that a positive relationship with siblings was associated with identity commitment. This study also found that the quality of sibling relationships can encourage adolescents to carry out in-depth exploration and commitment. However, this study found that the quality of sibling relationships had a more significant indirect effect on adolescent identity formation through the identification process. The result can be an alternative to the dynamics of the relationship between the quality of sibling relationships and identity formation that have been discovered in previous studies (Crocetti et al., 2016; Wong et al., 2010).

Sibling relationships influence each other's cognitive, social, and emotional development as good relationship quality is characterized by a high level of warmth and closeness (Alekseeva, Kozlova, Baskaeva, & Pyankova, 2014; Ponti & Smorti, 2019; Smorti & Ponti, 2018; Sommantico, Donizzetti, Parrello, & De Rosa, 2019). The positive relationship creates a belief in the younger sibling that the older ones are good role models. Furthermore, modeling is characterized by the opportunity for adolescents to learn from each other through observation (Howe et al., 2020; Vleuten et al., 2020). Adolescents ask questions about many things and exchange ideas to obtain valuable insights to help form their identity. This finding is in line with a previous study that discovered that the quality of good relations with siblings directs adolescents to perform modeling (Wong et al., 2010).

The modeling process conducted by adolescents helps them discover goals and directions in the future, choose alternatives of life that are suitable with the self-sense that they want to develop, and choose the direction of work in the future (Schwartz et al., 2011). According to observational learning theory, younger siblings can learn and observe the values and interests of older siblings. Moreover, a study conducted by Wong et al. (2010) discovered that older siblings reach self-identity maturity earlier than younger siblings. In this condition, the younger sibling is likely to have the same commitment and deep exploration as the older sibling who first reached identity commitment through the modeling process.

However, not all sibling relationships are full of love, support, and friendship. There are also forms of hostile relationships and display aggressive behavior (Hamwey & Whiteman, 2021; Kim & Kim, 2019; Tucker, Sharp, Van Gundy, & Rebellon, 2019). This poor relationship quality leads adolescents to perform de-identification. This relationship makes adolescents strive to overcome potential feelings of inferiority and develop qualities different from older siblings (Whiteman et al., 2011). The lack of communication also makes adolescents lose the opportunity to learn and observe each other. Adolescents who tend to de-identify will develop different attributes, activities, and behaviors from older siblings to find identity in their way. Under these conditions, adolescents who experience de-identification find it more difficult to achieve optimal identity formation because they do not commit, explore in-depth, and reconsider commitments.

In general, this study contributes to further explaining the relationship between quality of sibling relationship and identity formation discovered previously (Crocetti et al., 2016; Wong et al., 2010). This study complements previous research by proposing the role of the identification process as a mediator between the quality of sibling relationships and identity formation. The findings indicate that the quality of the relationship with siblings formerly

makes adolescents perform the modeling process on older siblings before achieving optimal identity. The quality of positive relationships with siblings helps develop identity commitment, similar to their older siblings. Adolescents experiencing modeling can imitate and learn from older siblings, which helps form identities. However, it is possible to rule out the possibility of older siblings having the opportunity to process the younger ones. In addition, it is interesting to question the quality of sibling relationships over the long term, specifically when siblings no longer live together due to education, work, and marriage (Gilligan, Stocker, & Jewsbury Conger, 2020).

The positive quality of sibling relationships can be a source of support other than parents in identity formation. On the other hand, poor sibling relationships tend to lead adolescents to de-identify. De-identification makes it more difficult for adolescents to achieve an optimal identity. This study expands the investigation of the role of the family, which is still limited to the role of parents in examining the formation of adolescent identity by involving the identification process. Sibling, specifically older sibling, can be significant person who also helps adolescents form an identity.

This study has several advantages that complement the previous research (Crocetti et al., 2016; Wong et al., 2010), considering the age difference between siblings to be four years. Siblings who are close in age are more likely to imitate each other. Jensen, Pond, and Padilla-Walker (2015) revealed that it is more likely to see relationship dynamics in siblings close in age than those at distant age. Siblings who are closer in age tend to perform the process of comparing themselves to one another. However, the results of this study contribute to understanding the role of the identification process in the relationship between sibling relationship quality and adolescent identity formation. On the other hand, some limitations are that this study uses a cross-sectional design. It cannot explain the stability and changes of the identification process variables, the quality of sibling relationships, and identity formation that can be explained while using a longitudinal design.

## Conclusion

This study concludes that older siblings can play a significant role in the process of identity formation. The role of siblings depends on the quality of the relationships between siblings. The differences in quality that exist lead adolescents to carry out different identification processes, namely modeling and de-identification, which have a different impact on identity formation. Adolescents who perform modeling can learn from and imitate older siblings to help achieve optimal identity. Even though they both direct adolescents to perform identity formation, de-identification adolescents will be more difficult and experience more challenges that they must face to achieve optimal identity.

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