



Alexithymia and Self Differentiation: The Role of Fear of Intimacy and Insecure Adult Attachment

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Abstract

It is suggested in literature that there is a link between Alexithymia and Self-Differentiation; however, little is known about possible mediation factors. The goal of this work is to test in a non-clinical population of adults the mediation role of Fear of Intimacy and Adult Attachment in the relationship between Alexithymia and Self-Differentiation. A sample of 258 participants self identified as gay or lesbian, aged 20–50 years (M: 30.29; SD: 7.27), 45% of whom were males, completed self-reported measures of Alexithymia (TAS-20), Self-Differentiation (SDI), Fear of Intimacy (FIS); and Insecure Adult Attachment (RAAS). Our results show that Alexithymia predicts Self-Differentiation both directly and indirectly, through Fear of Intimacy and Insecure adult attachment. In addition, Fear of Intimacy directly influences Self-Differentiation, and also mediates the relationship between Alexithymia and Adult Attachment which, in turn, negatively predicts Self-Differentiation. In conclusion, Alexithymia predicts Self-Differentiation while Fear of Intimacy and adult attachment may act as mediators of the report. Limitations of the study and directions of future research are described.

Keywords Alexithymia · Fear of intimacy · Negative mood regulation · Adult attachment · Self-differentiation

Introduction

Alexithymia is a cognitive-emotional disorder characterized by a difficulty identifying one's own feelings, difficulty describing feelings, and an externally oriented thinking style (Nemiah and Sifneos 1970; Preece et al. 2017; Sifneso 1973).

Due to emotional regulation deficits, alexithymia tends to associate with different psychopathological frameworks (Frewen et al. 2008; Greene et al. 2020; Preece et al. 2017; Prino et al. 2019; Westwood et al. 2017) and difficulties in

interpersonal relationships (Hexel 2003; Lyvers et al. 2019; Montebanocci et al. 2004). Some evidence suggests that high levels of alexithymia tend to be associated with low levels of self-differentiation (Doba et al. 2018; Rothschild-Yakar et al. 2019). According to Bowen's theory (Bowen 1978; Kerr and Bowen 1988), self-differentiation is a construct that is expressed on two levels: on the intrapsychic level, differentiation of self is the capacity to balance emotional and intellectual functioning; on the interpersonal level, it is the ability to create intimate, emotional ties with others while remaining on some level independent from them, experiencing both intimacy and autonomy (Bowen 1978; Kerr and Bowen 1988).

Thus, less differentiated individuals tend to report poor social skills, more interpersonal conflicts, and tend to experience anxiety, stress, and discomfort in intimate relationships with others. In order to cope with relational stress, poorly differentiated subjects may resort to fusion with others (an intense emotional involvement in relationships with others) or emotional cutoff (the tendency to show exaggerated independence and autonomy from others) in an attempt to manage anxiety in relationships through physical and emotional distance from the significant other.

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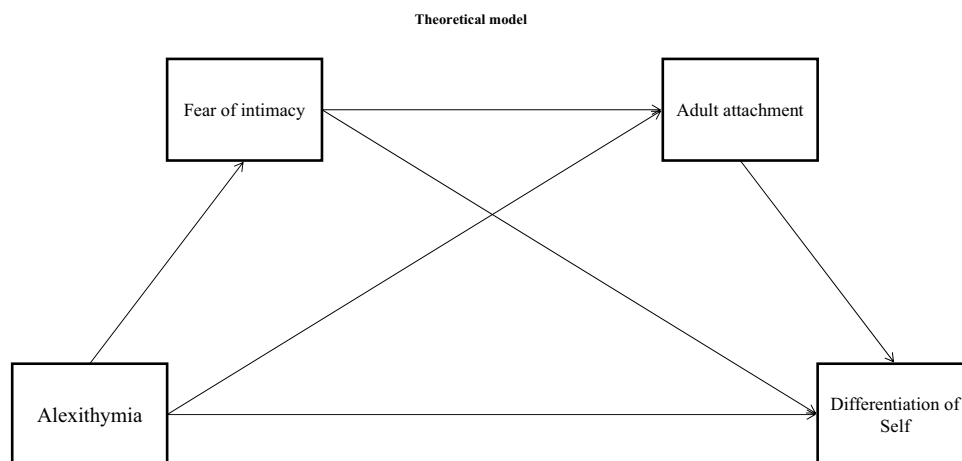
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Fig. 1 Hypothesized model



In addition, less differentiated individuals tend to react to external or internal stressors with intense, irrational emotional activation, and they tend to display little ability to think and act autonomously (less I-Position) (Bowen 1978; Lampis et al. 2017, 2019a).

In this direction, it is possible that alexithymic subjects tend to present less self-differentiation in adulthood, considering the stress caused by emotional stimuli and the poor ability to regularize their emotions in the context of interpersonal relationships. In this sense, due to the emotional regulation deficits, alexithymic subjects can adopt distancing and avoidance strategies with respect to emotions in intimate relationships, resulting in emotional cutoff strategies typical of less differentiated individuals. In fact, less differentiated individuals, in order to regulate anxiety in interpersonal relationships, can gravitate toward fusion with others or emotional cutoffs, thus distancing themselves from others both physically and psychologically (Kerr and Bowen 1988). The latter strategy could be used by alexithymic subjects in order to deal with emotional distress and discomfort in intimate relationships. However, little has been investigated empirically on the association between Alexithymia and Self-Differentiation in the general non-clinical population, and little is known about the mediation factors involved. In this research, we wanted to test, in a non-clinical population of self-identified gay and lesbian people, a model of the relationship between Alexithymia and Self-Differentiation, which involves, as mediation factors, the fear of intimacy and adult attachment.

Alexithymia, Adult Attachment, and Self-Differentiation

Several studies have found a link between alexithymic and adult attachment traits (Bekker et al. 2007; Berry et al. 2007; De Rick and Vanheule 2007; Gong et al. 2014; Hexel 2003; Lyvers et al. 2017, 2019; Montebanocci et al. 2004; Mousavi

et al. 2016; Taylor et al. 2014; Zdankiewicz-Ścigała, Ścigała 2018) indicating that Alexithymia, probably due to its emotional regulation deficits, may solicit forms of insecure adult attachment, characterized by anxiety, fear of rejection and abandonment and difficulties in intimacy in the relationship with the partner. Secure attached adults manage to get in emotional contact with each other, do not fear abandonment and feel the other as a source of security and comfort, while subjects with insecure adult attachment tend to avoid intimacy, to experience anxiety and fear of rejection and abandonment in intimate relationships.

According to attachment theorists (Bartholomew 1990; Bowlby 1973, 1982; Mikulincer and Shaver 2012), primary experiences with parents tend to shape internal operating models that support the way adults live and interpret romantic relationships. In this direction, children who have received substantial, sensitive, and affective care from their parents and were able to use those attachment figures for comfort when distressed and as secure bases from which to explore the environment, may internalize this relational pattern by developing confident representations of relationships that will thus affect the quality of relationships in adulthood.

On the contrary, ambivalent or rejecting and emotionally unavailable parents may increase insecure attachment characterized by difficulty in getting into emotional contact, discomfort intimacy with the partner and fear of rejection or abandonment. Although individuals may form links with different qualities of attachment depending on the significant figures with whom they relate, the literature seems to suggest that adult attachment tends to be consistent with childhood experiences (Bartholomew 1990; Bartholomew et al. 1991; Fabris et al. 2018). In this direction, alexithymic subjects, who experience poor relationships with parents in childhood, may more often report an insecure adult attachment bond, in continuity with earlier experiences.

In this way, adult insecure attachment could be the result of emotional regulation difficulties in alexithymic subjects

and associate with coping strategies with emotional distress from intimate relationships.

The theory of attachment (Bowlby 1973,1982; Mikulincer and Shaver 2012) and the theory of self-differentiation (Bowen 1976, 1978; Kerr and Bowen 1988) come from two different theoretical traditions. Despite their differences, the two theories have common aspects. Both recognize the contribution of meaningful relationships with others in developing the way adults maintain relationships with others and emotional regulation skills. Both focus on the relationship between autonomy and intimacy in the family context, and recognize the importance of the quality of relationships over the generations, connecting inter- and intrapsychic processes (Hardy and Fisher 2018; Lampis and Cautadella 2019; Ross and Murdock 2016). However, as Hardy and Fisher (2018) argue, “differentiation theory focuses mostly on adult maturation rather than infant and child development, which may partially explain why it has been overshadowed in attachment research” (Hardy and Fisher 2018, p. 561).

Some theorists have pointed out that self-differentiation is connected with secure adult attachment, in which partners co-regulate and form a secure basis for each other, increase their ability to balance dependence and autonomy from the partner, and develop a greater sense of self (Hardy and Fisher 2018). According to attachment theorists, self-differentiation is the result of adult attachment: the more partners are able to develop and maintain a sense of safety and security, the more stable their sense of self will become. In contrast, according to self-differentiation theorists, the degree of differentiation is not the result of secure attachment, but differentiation regulates the balance of attachment and autonomy (Hardy and Fisher 2018).

In this direction, some evidence suggests an association between measures of insecure adult attachment and low levels of self-differentiation (Cepukiene 2020; Hanlen et al. 2016; Skowron and Kendy 2004; Thorberg et al. 2006, 2010). Some research suggests that insecure adult attachment predicts poor self-differentiation, particularly associated with aspects such as high emotional reactivity, emotional cut-off and difficulty to adhere to one’s convictions in spite of external pressure (Thorberg et al. 2010).

These aspects are salient for subjects with alexithymia and may represent dysfunctional ways of managing intimacy and emotion in partner relationships. Moreover, individuals with insecure attachment and less differentiation tend to report greater emotional dysregulation and dysfunctional coping strategies that are typical of subjects with alexithymia (Hanlen et al. 2016). For this reason it is interesting to evaluate alexithymia, adult attachment, and self-differentiation together, and our goal was to analyze the mediating role of insecure adult attachment in the relationship between Alexithymia and Self-Differentiation.

In this direction, we hypothesize that individuals with high levels of alexithymia, due to their deficits in emotional-relational functioning and in continuity with childhood attachment experiences, tend to report fewer levels of adult safe attachment which, in turn, predicts lower levels of self-differentiation, thus contributing to develop little sense of self and less competence in balancing intimacy and autonomy needs in relationships with the partner.

The Role of Fear of Intimacy

In order to explore the relationship between Alexithymia and the constructs of insecure attachment and self-differentiation, it is interesting to examine the role of Fear of Intimacy.

Fear of intimacy refers to the inhibited ability of the individual to share thoughts and emotions of personal significance with other individual who is highly valued (Descutner and Thelen 1991), and tends to oppose the ability to form close and intimate relationships (Doi and Thelen 1993). In the literature, some evidence suggests that high traits of alexithymia tend to be associated with high levels of fear of intimacy (Beshart et al. 2014; Lyvers et al. 2017; Karakis and Levant 2012) while a study (Lyvers et al. 2017) identified a role of fear of intimacy mediation in the relationship between alexithymia and insecure adult attachment.

Globally, these data seem to indicate that alexithymic subjects tend to experience anxiety and discomfort in close relationships, and therefore may be more prone to establishing forms of insecure attachment to the partner in order to regulate their emotions and proximity to it.

Following this direction, it is observed that Fear of Intimacy is central in the less self-differentiated subjects, who may use emotional cut-off in order to avoid and manage negative emotions coming from intimate relationships, thus proving to be exaggeratedly autonomous and not inclined to experience intimacy with the partner and to enter into emotional contact with them (Thorberg et al. 2006,2010). Therefore, we hypothesize that fear of intimacy could have a mediating role in the relationship between alexithymia and self-differentiation. In particular, we anticipate that fear of intimacy may predict self-differentiation both directly and indirectly, through adult insecure attachment.

The Purpose of this Study

Based on the aforementioned theoretical framework, the purpose of this study was to analyze the relationship between alexithymia and differentiation of self, mediated by the fear of intimacy and adult attachment in a serial multiple mediation model. We hypothesize that fear of intimacy might have a mediating role in the relationship between alexithymia and self-differentiation. In particular, we anticipate that alexithymia may predict

self-differentiation both directly and indirectly, through fear of intimacy and adult insecure attachment. By involving a non-clinical population of self-identified gay and lesbian people, our contribution aims to extend the current knowledge on the relationship between alexithymia and the variables involved in the proposed model. In particular, alexithymia is a condition that can affect the individual's adjustment, which is associated with a decrease in psychological well-being and difficulties in interpersonal relationships. Investigating the factors involved in the relationship between alexithymia and self-differentiation allows us not only to bring evidence in support of a theoretical model, but also to identify factors that can inform more specific assessment and intervention strategies for subjects with alexithymia.

Finally, we wanted to test this model in a particular cultural context, Poland, with subjects belonging to the LGBTQ community or self-identifying as gay or lesbian. Poland is a country whose population defines itself as 91% Roman Catholic, and, in general, a negative attitude toward the LGBTQ population prevails (Mizielinska 2020). Although some evidence suggests that there are no differences between the minority sample and the general population in terms of self-differentiation and adult attachment (Spencer and Brown 2007), it cannot be excluded that in such a cultural context internalized stigma and homophobia may affect the quality of relationships and the self-concept of homosexual individuals (Badenes-Ribera et al. 2018; Hossain and Ferreira 2019), including fear of intimacy (Szymanski and Hilton 2013) (Fig. 1).

Method

Participants

All the respondents came from Poland and had secondary (59.3%) or higher education (40.7%). The study participants were selected based on the convenience sampling method, but the condition for taking part in the study was to have been in a romantic relationship for at least six months at the time of the survey. The participants were recruited online; participants were invited to take part in the research through a brief advertisement posted on one of the most popular gay and lesbian online platforms in Poland and on Polish Facebook LGBTQ groups related to equality parade, which is an event organized every year to show opposition against intolerance and homophobia.

The sample comprised 258 participants aged 30.29 on average ($SD = 7.27$, Min. = 20, Max. = 50). The group included 54.7 per cent females and 45.3 per cent males.

Procedure

The study was conducted in accordance with the recommendations of the University of Social Sciences and Humanities Ethics Committee with written informed consent which was obtained from every single participant. All procedures involving human respondents complied with ethical standards of the institutional and/or national research committee and the 1964 Helsinki declaration, as amended, or relevant ethical standards. At the beginning, before opening questionnaire packets, all participants were asked to give consent for their participation, as well as they were instructed on how to complete the questionnaire and how to withdraw from the study. The information was also provided that the participation in the study was voluntary and anonymous.

The study required that the people selected for the research were those who had been in a romantic relationship for at least six months at the time of taking the survey. The subjects were encouraged to answer questions in the most truthful manner, and the anonymity was guaranteed when filling out the questionnaires. The same sets of questions were answered individually by respondents, and the participants were not credited for the completion of the questionnaire.

Instruments

Socio-Demographic Features

Participants were asked to provide information for socio-demographic purposes, i.e. age and gender.

The Revised Adult Attachment Scale—Close Relationship Version (RAAS Collins and Read 1990; Collins 1996)

The Revised Adult Attachment Scale is an 18-point tool designed to measure the style of adult attachment. It comprises three subscales: Close, Depend, and Anxiety. The first subscale, i.e. Close, serves to measure the level of comfort the individual experiences with closeness and intimacy. The Depend subscale is used to assess whether the individual considers they can rely on others to be available when needed. Finally, the third subscale, i.e. Anxiety serves to measure the intensity of anxiety the person feels about being rejected or unloved. High scores on Close and Depend subscales, and low scores on the Anxiety dimension, imply a secure attachment style. Each item is scored on a five-point Likert scale with certain items scored reversely. It was shown that the RAAS scale constitutes an adequately valid and reliable tool (Collins and Read 1990).

The Polish version of the questionnaire, which was adapted by Adamczyk (2012), was used to conduct the survey, which shows acceptable dimensional Cronbach's α

accuracy at the level of 0.75 for the Close scale, 0.76 for the Depend scale, and 0.86 for the Anxiety scale. In the present study, the Cronbach's alphas amounted to 0.83 for Anxiety, 0.80 for Depend, and 0.81 for Close, respectively. Necessary to mention is the fact that the purpose of the RAAS is not to assess attachment styles, but continuous attachment dimensions which are assumed to constitute the basis of adult attachment (Bartholomew and Horowitz 1991; Collins 1996). Thus in the present study, (Close + Depend)/Anxiety formula was applied to index secure attachment (Lyvers et al. 2017). The willingness to use this formula was one of the main reasons for choosing the RAAS questionnaire.

The Toronto Alexithymia Scale—20 (TAS-20PL; Parker et al. 1993)

To examine the level of alexithymia, the Toronto Alexithymia Scale-20 was applied. In addition to the general level of alexithymia, the questionnaire allows to assess other dimensions through subscales such as: “difficulty describing feelings”; “difficulty identifying feelings”; “externally oriented style of thinking.” 20 items form the questionnaire are assessed on a five-degree Likert scale (1 – strongly disagree; 2 – partially disagree; 3 – undecided; 4 – partially agree; 5 – strongly agree). The scale range is between 20 and 100 points, but in addition to quantitative analysis, it is also possible to determine whether the tested person meets the criteria of alexithymia, which are between 52 and 60 points for possible alexithymia and above 61 points for alexithymia. The Polish version of the questionnaire, which was adapted by Dawid Ścigała and colleagues (2020) and used on a clinical group of alcohol addicts and control subjects, was used in the study. The clinical group scored an average of 54.97 (12.54) points and the control group scored 43.93 (12.48) points, which is similar to the cut-off points proposed by the authors of the questionnaire. Cronbach's α coefficient for polish version amounts to 0.86 for the general score; 0.75 for the “difficulty describing feelings” scale; 0.81 for the “difficulty identifying feelings” scale; and 0.64 for the “externally oriented style of thinking” scale (Ścigała et al. 2020). The Cronbach's α coefficient for the total score in the present sample amounted to 0.86.

The Fear of Intimacy Scale (FIS; Descutner and Ien 1991)

The purpose of FIS scale is to evaluate an individual's inability to express and present thoughts and feelings in a close relationship or at the prospect of a close relationship. The FIS is a 35 item measurement tool that applies a five-point Likert scale ranging from 1 (not typical of me at all) to 5 (absolutely typical of me). The higher the scores, the greater the fear of intimacy. The items focus on three defining features, i.e.: content (the communication of personal

information), emotional valence (strong feelings about the personal information exchanged), and vulnerability (high regard for the intimate other).

The Polish version of the questionnaire was used in the previous research by the authors of this study, which shows an acceptable reliability of Cronbach's α dimensions at 0.85.

Differentiation of Self Inventory (DSI, Skowron and Friedlander 1998)

Measures the degree to which an individual is able to balance autonomy and intimacy in close relationships, as well as the ability to balance rational and emotional reasoning). The inventory contains 43 items and yields four subscale scores, as well as an overall score. The four subscales include emotional reactivity, “I” position, emotional cutoff, and fusion with others. Items on the emotional reactivity subscale pertain to the tendency to respond emotionally to one's environment. Items on the “I” position subscale pertain to the ability to maintain a clearly defined sense of self. Items on the emotional cutoff subscale reflect the fear of intimacy and behavioral responses that an individual may engage in relation to that fear. Items on the fusion with others subscale pertain to the tendency to be over involved in significant relationships. Responses to all items were coded on a six-point Likert-type scale ranging from “1 = Not at all true of me” to “6 = Very true of me.” All items on the emotional reactivity, emotional cutoff, and fusion with others subscales were reverse scored, along with one item on the “I” position subscale. All subscale scores were computed according to the guidelines in the questionnaire manual (Skowron and Friedlander 1998).

The Polish version of the questionnaire was used in the adaptation of the authors of the study performed before the study, which shows the acceptable reliability of specific Cronbach's α dimensions at the level from 0.67 to 0.82.

In the present sample the Cronbach's alpha reliability coefficient for the full scale was 0.82.

Data Analysis

IBM SPSS Statistics Release 26 statistical software was applied to analyze all data. In the first place, sociodemographic information and study variables formed the basis for developing descriptive statistics. The values of skewness and kurtosis have been determined in order to verify normality of the data. Since skewness and kurtosis values ranged from +1 to -1 (see Table 1), the normal distribution of data has been stated (Tabachnick and Fidell 2013). Further, Pearson correlation coefficient tests have been carried out in order to investigate the relationships between individual research variables.

Table 1 Means, standard deviations and bivariate correlations of variables under study

	<i>M</i>	<i>SD</i>	<i>Skew</i>	<i>Kur</i>	1	2	3	4
1. Age	30.29	7.27	0.85	-0.17	–			
2. Alexithymia	46.14	13.02	0.17	-0.86	-.06	–		
3. Adult attachment formula	2.93	1.49	.94	0.37	.03	-.47***	–	
4. Fear of intimacy	74.63	23.23	0.63	-0.24	.03	.42***	-.50**	–
5. Differentiation of Self Inventory	3.69	0.50	0.16	0.04	.09	-.56***	.54***	-.49***

Adult Attachment formula is (close + depend)/anxiety (Lyvers et al. 2017)

M mean, *SD* standard deviation, *Skew* Skewness, *Kur* Kurtosis

****p* < .001

Moving on to the verification of the theoretical model, it was important to check the mediation role of fear of intimacy (mediator 1) and adult attachment (mediator 2), as well as the joint influence of both mediators on the relationship between alexithymia and differentiation of the self. Moreover, it was assumed that the two mediators were strongly correlated with each other; therefore, a serial multiple mediation model made via macro PROCESS for SPSS model 6 (Hayes 2018) was chosen, which assumes that both mediators are correlated with each other, as is the case with the presented model. It also allows for controlling the separate influence of each mediator and determining the influence of both mediating variables on the relationship between an independent and a dependent variable.

Finally, a serial multiple mediation model was tested. Two variables (i.e., fear of intimacy and adult attachment) were proposed as mediators of the relationships between the independent variable “Alexithymia” and a dependent variable Differentiation of Self. The second mediator, i.e. adult attachment, was operationalized by the formula (Close + Depend)/Anxiety, based on the rationale that secure attachment, as defined by RAAS scores, refers to high scores on Close and Depend accompanied by low scores on Anxiety (Lyvers et al. 2017).

The serial multiple mediation model was conducted with the use of SPSS macro PROCESS model 6 (Hayes 2018). PROCESS estimates direct effects, indirect effects, standard errors, and confidence intervals based on the distribution obtained with the bias corrected and accelerated bootstrapping method. The bias-corrected bootstrapping method does not assume normality or symmetry of the sampling distribution of the indirect effect and provides relatively greater power and better type I error rates when compared to other mediation approaches (Mackinnon et al. 2004). A statistically significant indirect effect indicates that the effect of the independent variable on the outcome is mediated by other variables. Moreover, in serial multiple mediator models the assumption that two mediators are not correlated with each other is rejected a priori (Hayes 2018). Thus using serial multiple mediation model the indirect effect of relation between independent variable (alexithymia), mediator 1 (fear of intimacy) and mediator 2 (adult

attachment) on dependent variable (Differentiation of Self) could be observed.

As per approach adopted by Hayes (2012, 2013, 2018), the statistical significance of the indirect mediating effects of variables upon the bootstrap method is assessed depending on whether the point estimate of the mediating variable is zero within a 95% bias corrected and accelerated confidence interval (BCa CI). Therefore, to consider an indirect effect statistically significant, the specified 95% bias-corrected bootstrap confidence interval should have contained “0”. Hayes (2013, 2018) suggested that 10,000 bootstrap samples be used for mediation analyses in the test from serial multiple mediation. As a result, data derived from 10,000 bootstrap samples were used in the present study. The term ‘bootstrapping’ refers to a re-sampling procedure in which multiple sub-samples of equal size as the original sample are replaced randomly.

As a final point, various pairwise comparisons were made between specific indirect effects to evaluate whether a certain indirect effect was statistically different from another.

Results

Description of Correlations

Table 1 includes means, standard deviations, and correlations for study variables. In order to determine the relationships among variables, correlations coefficients were estimated. As it is clearly visible from Table 1, alexithymia should be negatively correlated with secure adult attachment and differentiation of Self, and on the other hand, it correlated positively with fear of intimacy. Apart from the above, differentiation of Self positively correlated with adult attachment, and fear of intimacy negatively correlated with adult attachment.

Serial Multiple Mediation Model Explaining Differentiation of Self

Figure 2 presents findings resulted from the tested model of serial mediating roles of fear of intimacy and adult

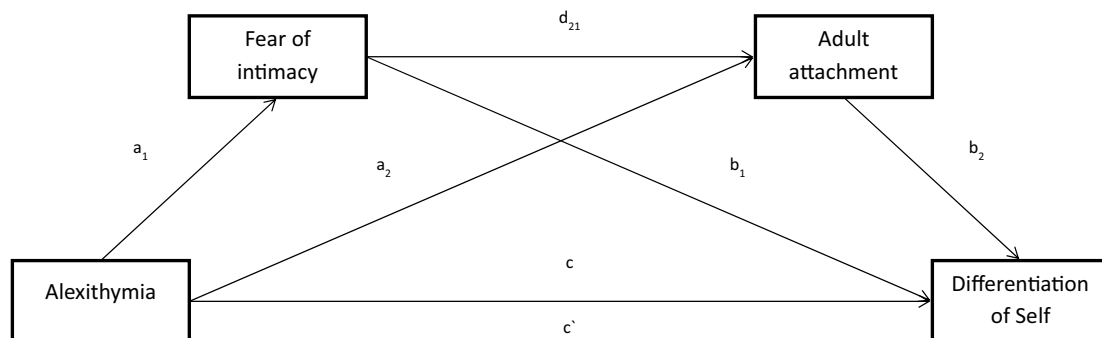
attachment in alexithymia and differentiation of Self relationship.

The performed analysis of the model related to the impact of alexithymia on the level of intensification of differentiation of the self with regard to a mediatory role of fear of intimacy and adult attachment. In addition, the model takes into account the gender that was previously centered (−1 male; 1 female) and age as covariates (Fig. 2). It turned out that age was not a significant covariant in any condition, including separate relations between mediators and the dependent variable, but gender was a significant covariant, and gender is included in the model to be described. The tested model was statistically significant: $F(4, 253) = 53.81$; $p < 0.0001$. The presented model explains 46% ($R^2 = 0.46$) of the variability in scores for the differentiation of the self.

As presented in Fig. 2 the total effect of alexithymia on differentiation of self was statistically significant ($c = -0.56$, $SE = 0.0020$, $t = 10.85$, $p < 0.0001$) (Step 1). The direct effect of Alexithymia on fear of intimacy ($a_1 = 0.42$, $SE = 0.1012$, $t = 7.4039$, $p < 0.0001$) was statistically significant (Step 2). The direct effect of alexithymia on adult attachment ($a_2 = -0.31$, $SE = 0.0093$, $t = 5.52$, $p < 0.0001$) was significant and direct effect of fear of intimacy on adult attachment formula was also statistically significant ($d_{21} = -0.37$, $SE = .0052$, $t = 6.58$, $p < 0.0001$) (Step 3). The direct effect of fear

of intimacy ($b_1 = -0.20$, $SE = 0.0012$, $t = 3.6371$, $p < 0.001$) and adult attachment ($b_2 = 0.27$, $SE = 0.0133$, $t = 4.7884$, $p < 0.0001$) on differentiation of self level were statistically significant (Step 4). When alexithymia and mediating variable were simultaneously entered in the model (Step 5) the direct effect of alexithymia on differentiation of self decreased but the significance level did not change ($c' = -0.35$, $SE = 0.0021$, $t = 6.34$, $p < 0.0001$). That is, the direct effect remained significant indicating partial rather than full mediation.

The analysis of indirect effects based on confidence intervals using 10,000 bootstrapping and the correction on the significance level of 95% showed that the first indirect effect of the impact of alexithymia on the differentiation of self with the mediatory role of fear of intimacy (a_1, b_1) was statistically significant (point estimate $b = 0.09$, 95% CI $[-0.14; -0.04]$) and gender was a significant covariant (Fig. 2), which means that this relation is more possible for men. As for the second indirect effect, where adult attachment formula constituted a mediator (a_2, b_2), the result turned out also statistically significant (point estimate $b = 0.09$, 95% CI $[-0.13; -0.04]$) and again gender was a significant covariant (Fig. 2). Turning to the last indirect effect of the impact of alexithymia on the intensification of differentiation of self level with fear of intimacy and adult attachment



(c) A direct effect of the impact of alexithymia on the Differentiation of Self level.

(a1, b1) An indirect effect of the impact of alexithymia on the Differentiation of Self level, including fear of intimacy.

(a2, b2) An indirect effect of the impact of alexithymia on the Differentiation of Self level, including raas index.

(a1, d21, b2) An indirect effect of the impact of alexithymia on the Differentiation of Self level, including fear of intimacy and raas index.

(c') A direct effect of the impact of alexithymia on the Differentiation of Self level, taking account of the impact of both mediators.

Covariates: gender(centered -1 male; 1female) - significant in (c) $cov = -.14^*$; (a1, b1) $cov = -.15^*$; (a2, b2) $cov = -.12^*$; (a1, d21, b2) $cov = -.13^*$

age - not significant;

* $p < 0.05$; ** $p < 0.01$.

Fig. 2 Serial-multiple mediation model for the relation between Alexithymia dimension and Differentiation of Self, where Fear of Intimacy and Adult Attachment formula constitute mediators. (c) A direct effect of the impact of alexithymia on the Differentiation of Self level. (a1, b1) An indirect effect of the impact of alexithymia on the Differentiation of Self level, including fear of intimacy. (a2, b2) An indirect effect of the impact of alexithymia on the Differentiation of Self level, including raas index. (a1, d21, b2) An

indirect effect of the impact of alexithymia on the Differentiation of Self level, including fear of intimacy and raas index. (c') A direct effect of the impact of alexithymia on the Differentiation of Self level, taking account of the impact of both mediators. Covariates: gender(centered -1 male; 1female)—significant in (c) $cov = -.14^*$; (a1, b1) $cov = -.15^*$; (a2, b2) $cov = -.12^*$; (a1, d21, b2) $cov = -.13^*$. age - not significant; * $p < 0.05$; ** $p < 0.01$

formula as mediators (a_1 , d_{21} , b_2), it was proven that this effect was statistically significant (point estimate $b = 0.04$. 95% CI $[-0.07; -0.02]$), once more gender was an significant covariant and as in the previous cases, it is more probably for men (Fig. 2). The total indirect effect (the difference between the total and indirect effects/ $c - c'$) of alexithymia on differentiation of self inventory through fear of intimacy and adult attachment formula was statistically significant (point estimate $b = 0.21$. 95% CI $[-0.29; -0.15]$).

The contrasts between the indirect effects shows only one statistically significant difference between indirect effect 2 (a_2 , b_2) and indirect effect 3 (a_1 , d_{21} , b_2) (point estimate $b = 0.04$. 95% CI $[-0.09; -0.01]$). Differences between indirect effect 1 (a_1 , b_1) versus indirect effect 2 (a_2 , b_2) and indirect effect 1 (a_1 , b_1) versus indirect effect 3 (a_1 , d_{21} , b_2) are not statistically significant.

Discussion

Our study attempted to explore a model of Alexithymia as a predictor of Self-Differentiation, investigating the possible influence of two mediation factors: fear of intimacy and adult attachment.

In accordance with some previous evidence (Doba et al. 2018; Rothschild-Yakar et al. 2019), our study reported an association between high levels of alexithymia and low levels of self-differentiation, thus indicating that alexithymic subjects tend to have difficulty regulating emotions and developing intimate relationships, characterized by a balance between autonomy and intimacy, which results in poor self-differentiation. According to our findings, this correlation may be explained by at least two possible mediation factors: adult attachment and fear of intimacy.

The literature recognizes, in dysfunctional parenting, practices and poor relationships with caregivers of evolutionary risk factors for the development of Alexithymic traits. Considering the continuity of attachment patterns along development, it is possible that adults tend to bring back insecure adult attachment partners, thus indicating anxiety and discomfort in close relationships. In turn, according to our data, it is possible that adult insecure attachment is related to poor self-differentiation. According to some self-differentiation theorists, it may be considered the outcome of a secure attachment (Hardy and Fisher 2018; Lampis and Cautadella 2019). In this direction, it is possible that insecure attachment is associated with salient features that feed low levels of self-differentiation.

For example, individuals with ambivalent insecure attachment may exhibit more emotional reactions and fusion with others, while adults with avoidant attachment may make greater use of emotional cut-offs, i.e. a tendency to suppress emotions and prove independent of their partner (Besharat

et al. 2014; Ross and Murdock 2016; Skowron and Dendy 2004). In this way, the insecure attachment bond represents for the alexithymic subjects the attempt to ensure the closeness of the partner by trying to manage the difficulties of emotional regulation and intimacy with the partner.

However, forms of insecure attachment may prompt strategies of coping with emotions that contribute to poor self-differentiation. Alexithymic subjects may be more likely to report emotional avoidance strategies in the relationship, as a result of fear of intimacy. Fear of intimacy tends to associate with strategies of emotional avoidance and suppression of emotions, thus fueling insecure attachment to partners, in which the subject tends to disavow the importance of intimate relationships and being excessively independent from their partner (Bartholomew 1990; Wei et al. 2005). In this direction, our study reported that fear of intimacy has a direct negative impact on self-differentiation. It is possible that fear of intimacy is associated with aspects of emotional cut-off or emotional reaction, thus increasing emotional dysregulation and poor self-differing in alexithymic subjects.

However, our data also supports an indirect influence of fear of intimacy on self-differentiation via adult attachment. A previous study (Lyvers et al. 2017) had shown that fear of intimacy could be a mediation factor in the relationship between alexithymia and adult attachment. Our study replicates the results of the previous one (Lyvers et al. 2017) into a larger sample and in a different culture, and attempts to extend current knowledge by inserting these constructs into a broader model comprising Self-Differentiation. Therefore, our data seems to support that alexithymic subjects tend to express more anxiety and discomfort in intimate relationships, as indicated by higher levels of fear of intimacy.

In this direction, fear of intimacy could help to maintain, in accordance with previous evolutionary experiences, patterns of insecure attachment, especially avoidance, in order to uphold proximity with the partner and manage intimacy with it, resulting in strategies that decrease levels of self-differentiation.

These data must be read within the cultural context and specific population (people self-identifying as gay and lesbian people or belonging to the LGBTQ community) that this study focused on. Our study examined the relationship between variables in gay and lesbian subjects who were not recruited from the general population but who were recruited via an online platform, indicating that they belong to the LGBTQ community. Sexual minorities are still victims of discrimination in Poland. The cultural climate is not favorable to them, and even the chronicles of recent times indicate a situation of intolerance toward the LGBTQ community. We did not compare sexual minorities and the general population; however, it is possible that violence, discrimination, and internalized homophobia arise in some way to influence some dimensions, such as fear of intimacy and adult

attachment in gay and lesbian people, therefore making the relationship between these variables more significant. In the future, this should be taken into account.

The novelty of this study is not only that it examined a particular population in a specific cultural context. A novel aspect is the observation of the relationship between alexithymia, adult attachment, fear of intimacy, and self-differentiation in a single model. In particular, the study supports the possible mediating role of fear of intimacy and insecure adult attachment in the relationship between levels of alexithymia and self-differentiation. Although the constructs investigated are independent and well defined, it is possible that they present convergences and similarities between them. In this sense, alexithymia is described as an inability to recognize one's emotions and regulate them, which can lead to difficulties in interpersonal relationships, such as fear of intimacy and insecure attachment. If we think about the difficulties of an alexithymic subject, it is possible that avoidance constitutes an attempt to compensate for and counteract difficulties in regulating one's emotions and fear of intimacy in interpersonal relationships, resulting in less self-differentiation. In this way, fear of intimacy and adult attachment, which in this study partially mediates the relationship between alexithymia and self-differentiation, may indicate that these constructs are characteristic of subjects with alexithymia, constitute a salient aspect of the interpersonal functioning of the alexithymic subject, and suggest therefore the mechanism by which alexithymia can decrease levels of self-differentiation. Several theorists suggest that alexithymia develops from difficulties in relationships with primary caregivers. These relational patterns may have led to the onset of alexithymic symptoms, also contributing to the maintenance of dysfunctional interpersonal relationships in adulthood, where fear of intimacy and insecure adult attachment have characteristics incorporated in the interpersonal functioning of the alexithymic subject, resulting in greater self-differentiation. Future studies may continue to observe the relationship between these variables in an integrated way.

Limitations and Future Research

Naturally, our data should be interpreted with caution. Although the model may be interesting, causal relationships cannot be evinced by adopting a cross-sectional approach and, therefore, longitudinal studies are required to clarify the direction of causation in the relationship between constructs.

In addition, the model could be tested in other populations (e.g. specific clinical populations) and other cultures, in order to verify their validity in other contexts and increase their generality of results. In this study, we used self-reporting tools, so factors related to memory, text comprehension, and social desirability may have intervened. Therefore,

future studies may include different instruments and different observatories. Finally, in this study, we looked only at measures indicative of the level of secure adult attachment and the level of self-differentiation. However, future studies will identify the correlation between the individual components of these constructs, such as the types of insecure attachment binding and the self-differentiation dimensions we referred to.

Clinical Implications

Finally, the results of the present study have some clinical implications. Both Alexithymia (Frewen et al. 2008; Greene et al. 2020; Precee et al. 2017) and Self-Differentiation (Chung and Gale 2006; Krycak et al. 2012) are constructs associated with a decrease in psychological well-being and a difficulty in meaningful relationships.

Therefore, such constructs should be investigated and evaluated in patients who report relationship difficulties or problems related to the regulation of affections. In addition, the therapist will have to take into account the aspects of dysregulation and insecurity inherent in the relational patterns of the alexithymic subjects. Fear of intimacy and insecure adult attachment are aspects that have been significant in mediating the relationship between alexithymia and self-differentiation.

Therefore, such constructs should be carefully investigated and considered in formulating a clinical intervention. Alexithymic individuals may be reluctant to engage in psychotherapeutic intervention. This is why it is important to build a strong alliance with these patients that becomes the basis for allowing the patient to explore themselves, their emotions, their cognitions, their values, and their own relational patterns (Lampis et al. 2019b). Research suggests that counseling interventions, regardless of the theoretical approach and the techniques employed, are useful in supporting patients' self-differentiation processes (Messina et al. 2018). As suggested by Bowen (1978), the process underlying the increase in self-differentiation requires self-exploration and the ability to take a systemic view of one's own place in one's emotional system. A strong alliance with the therapist could make the patient feel safer and more comfortable in dealing with this process.

In particular, therapists will be able to work on the relationship with the patient keeping in mind the characteristics of their adult attachment bond, which will affect the therapist-patient relationship during the sessions. Vanheule and colleagues (2007, 2010) suggested that therapists regularly monitor and discuss the nature of the therapeutic relationship with their patients in order to stimulate the latter's capacity to think about relationships and feelings in relationships. Additionally, therapists can help patients develop awareness of their relationship patterns by helping them to reconstruct

the history of their attachments and past family relationships and to observe how past relationships affect their current relationships and psychological distress (Lampis et al. 2019a, 2019b). The genogram could be a useful tool for this purpose, particularly for systemic-oriented psychotherapists.

Alexithymic patients should be led by their therapists in learning to discern manifestations of arousal, to describe these states, and to develop relevant explanations for them without the therapist imposing their own explanations (Vanheule et al. 2007, 2010). Despite their peculiarities, attachment theory and self-differentiation theory show theoretical convergences that should be integrated in clinical work; more specifically, in therapeutic interventions addressed toward individuals presenting alexithymia and emotional dysregulation (Lampis et al. 2019a, b; Ross et al. 2016). Working in therapy with an alexithymic patient means helping them adjust better and have more functional interpersonal relationships. This can be particularly significant in romantic relationships and therefore also in couple therapy. The therapist can therefore help the patient to reduce emotional cutoff levels and find a better balance between accepting dependence on others and expressing emotional autonomy (Lampis et al. 2019b).

In this direction, approaches such as emotionally focused couple therapy (Greenberg and Goldman 2008) and Fishbane's (2007) relational empowerment model can integrate aspects of attachment and self-differentiation in working with individuals and couples in order to help them develop a secure base with their partner and the best strategies for relational emotional regulation (Lampis and Cautadell 2019). These approaches could be beneficial for individuals with alexithymia, particularly in couples therapy.

Furthermore, on an individual level, research suggests the possibility of using techniques based on mentalization and cognitive behavioral strategies in order to respectively increase the reflexive function and adopt more adequate coping strategies (Ogrodniczuk et al. 2011).

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