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The Naked Truth: Evaluating the Psychological Impact of Non-Sexual Nudity

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ABSTRACT: Empirical research on the effects of exposing children to nudity is sparse, with most suggesting that it may not be as harmful as previously proposed. However, the behaviour is still condemned by society and child welfare organisations. This study aimed to explore how childhood exposure to parental non-sexual nudity (PNSN) affects life outcomes, while controlling for participant engagement in non-sexual nudity (NSN). A sample of 178 adults (M = 49.83, SD = 17.56) were asked to reflect on their exposure to PNSN in their childhood and their current engagement in NSN. The participants were also asked to complete surveys measuring a wide range of life outcomes (body satisfaction, life satisfaction, antisocial behaviour, mental health and sexual adjustment). A two-way Multivariate Analysis of Variance (MANOVA) indicated that exposure to PNSN did not have the harmful effects previously suggested. Furthermore, those engaging in NSN had more positive life outcomes than those who did not. Finally, no interaction effects were found. Explorative analysis indicated that increased frequency and a greater variety of PNSN and NSN settings were associated with more positive life outcomes. This study suggests that it is necessary to dissociate PNSN from childhood abuse in order to better evaluate the effects of this on children. Furthermore, it highlights the need for further research in this area.

Keywords: Non-sexual nudity; Childhood experiences; Body satisfaction; Life satisfaction; Mental health; Sexual adjustment; Antisocial behaviour

1. Introduction

Naturism is broadly defined as the practice of non-sexual social nudity in private or public settings [1]. Early scholarship conceptualises naturism as a context in which sexuality is deliberately regulated. However, Smith and colleagues [2,3] argue that naturist environments suppress sexual meaning through behavioural norms, spatial separation, and community rules. Within this framework, nudity is reframed as a means of fostering connection with nature and promoting bodily acceptance.

A growing body of research suggests that naturist participation is associated with enhanced psychological wellbeing. Green's qualitative work [4] indicates that non-sexual nudity can reduce self-consciousness, while West [5] reports that naturists—particularly those with recent engagement in naturist events—exhibit higher levels of self-esteem, life satisfaction, and body satisfaction than non-naturists.

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These effects have been attributed to exposure to diverse, non idealised bodies, which may counteract unrealistic cultural standards of appearance [4,5]. If exposure to non idealised bodies is central to these benefits, individuals who experience non sexual nudity from an early age—such as through parental non-sexual nudity (PNSN)—might be expected to show the strongest positive outcomes.

Debate surrounding PNSN is longstanding and polarised. Some authors argue that childhood exposure to adult nudity may be psychologically harmful. Smith and Sparks [3], for example, raise concerns based on theoretical rather than empirical grounds. Baruch [6], writing from a psychoanalytic perspective, suggested that viewing the nude adult body could provoke fear or confusion in children, potentially leading to long term psychological difficulties. Public discourse has often echoed these anxieties, with child welfare organisations and commentators framing PNSN as inappropriate or abnormal [7,8]. Some have even linked PNSN to concepts such as "subtle sexual abuse" [9] or later antisocial behaviour [10]. However, these claims are largely speculative, and subsequent research has challenged the proposed associations [11]. Other scholars argue that concealing the body may inadvertently heighten children's curiosity or discomfort [12], while Gardner [13] suggests that an absence of PNSN may communicate shame, potentially contributing to difficulties with nudity in adult intimate relationships.

Empirical evidence provides a contrasting picture. Oleinick et al. [14] conducted the first systematic investigation of PNSN, comparing psychiatric outpatients with controls and finding no differences in childhood exposure to parental nudity. This suggests that PNSN is not associated with later psychiatric symptomatology. Subsequent studies have identified potential benefits. Story [15] found that children exposed to PNSN reported greater body satisfaction, including more positive attitudes toward their genitals, and scored higher on measures of self-acceptance and self-image. Lewis and Janda [16] reported that childhood exposure to nudity was associated with greater sexual confidence in adulthood, a finding supported by Okami et al.'s longitudinal study [17], which identified more positive sexual adjustment in adolescence among those exposed to PNSN. Lewis and Janda [16] also observed a correlation between PNSN and casual sexual behaviour; although historically framed as a negative outcome, contemporary social norms suggest that such behaviour is not inherently problematic [18].

Despite these insights, the empirical literature on PNSN remains limited. Only a limited number of studies have directly examined its effects, all published more than a decade ago. These studies do not capture the full range of potential life outcomes, nor do they consider the frequency, context, or meaning of exposure. Moreover, they do not explore how PNSN interacts with later engagement in naturism, despite theoretical links between early bodily openness and adult comfort with social nudity.

The present research addresses these gaps by examining a broad set of life outcomes, including antisocial behaviour, mental health, sexual adjustment, body satisfaction, and life satisfaction, among individuals exposed to PNSN during childhood. It further investigates how childhood exposure to non-sexual nudity may interact with adult participation in naturist activities, offering a more comprehensive understanding of the developmental and psychosocial implications of early bodily experiences. Based on previous literature, this study hypothesised that,

H1: Those engaging in NSN would have better life outcomes than those who do not.

H2: Those exposed to PNSN in their childhood would have similar or better life outcomes in their adulthood than those with no exposure to PNSN.

H3: There will be an interaction effect between exposure to PNSN in childhood and engagement in NSN nudity in adulthood.

2. Materials and Methods

2.1. Participants

The study utilised convenience and snowball sampling. It was advertised through social media (e.g., Facebook, Twitter) and the British Naturist Society, and participants were asked to share with other interested individuals. The inclusion criteria for this study were any adults across the world. This study was approved by the Regent's University London School of Psychotherapy and Psychology Ethics Committee. There were 204 participants who gave consent to take part in the study. However, 26 participants chose to withdraw before completing the survey fully.

The final sample of 178 participants ranged between 19 to 81 years old (M = 49.83, SD = 17.56) and was predominantly male (N = 134). A majority of the sample have identified themselves as White (White = 153; Black = 7; Asian = 6; Mixed = 3; Other = 9), Christian (Christian = 70; Muslim = 17; Jewish = 1; Other religion = 16; Atheist/No religion = 63), and Heterosexual (Heterosexual = 157; Homosexual = 6; Bisexual = 11; Other = 3). Furthermore, the majority of the sample indicated that they are married (Married = 86; Single = 43; In a relationship = 40; Other = 8) and had children (105). The majority also indicated that they have never been arrested (89.3%) or sexually abused (89.9%). Of the full sample, 83.7% reported that they engage in NSN, 24.2% indicated awareness of their parents engaging in NSN in their childhood, and 41.6% were exposed to PNSN during their childhood.

2.2. Measures

The online survey was created using Survey Monkey and consisted of non-sexual nudity measures (own and parental) and scales measuring life outcomes (life satisfaction, body satisfaction, mental health, sexual adjustment and antisocial behaviour).

2.2.1. Life Satisfaction

Life satisfaction was measured using the Satisfaction with Life scale (SWL) [19]. This scale consisted of five items (e.g., The conditions of my life are excellent) that were rated on a 7-point Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (7). The scores for each item were summed to produce an overall score of SWL ranging from 5–35, with higher scores indicating greater SWL. The scale showed high reliability in the current data (Cronbach's $\alpha = 0.89$).

2.2.2. Body Satisfaction

Body satisfaction was measured using the Body Appreciation Scale (BAS) [20]. The scale consisted of 13 items (e.g., I respect my body) that were rated on a 5-point Likert-type scale ranging from Never (1) to Always (5). The items were summed to produce an overall scale of body satisfaction ranging 13–65, with higher scores indicating higher body satisfaction. The scale showed high reliability in the current data (Cronbach's $\alpha = 0.87$).

2.2.3. General Mental Health

General mental health of the participants was measured by the reduced Depression, Anxiety and Stress Scale (DASS-21) [21]. This scale consisted of 21 items, split into three subscales with seven items in each: Depression (e.g., I couldn't seem to experience any positive feeling at all), Anxiety (e.g., I was aware of dryness of my mouth) and Stress (e.g., I found it hard to wind down). The items were rated on a 4-point Likert-type scale ranging from never (0) to almost always (3). The items were summed to produce an overall score for each subscale ranging 0–21, with higher scores indicating greater mental health problems. The

scale showed high reliability in the current study across all three subscales (Depression Cronbach's α = 0.88; Anxiety Cronbach's α = 0.85; Stress Cronbach's α = 0.85).

2.2.4. Antisocial Behaviour

This variable was measured using the Subtypes of Antisocial Behaviour scale (STAB) [22]. This scale consists of 32 items, split into three subscales: 10 items relating to Physical Aggression (e.g., Felt like hitting people), 11 items relating to Social Aggression (e.g., Blamed others), and 11 items relating to Rule Breaking (e.g., Broke into a store, mall or warehouse). All items were rated on a 5-point Likert-type scale ranging from Never (1) to Nearly All the Time (5). A mean score was calculated for each subscale, with higher scores indicating a higher level of antisocial behaviour. The scale showed high reliability in the current study for Physical Aggression (Cronbach's α = 0.84) and Social Aggression (Cronbach's α = 0.85). However, reliability for Rule Breaking was low (Cronbach's α = 0.60).

2.2.5. Sexual Adjustment

The Sexual Adjustment Subscale of the Retrospective Reports of Childhood Experiences with Nudity scale [16] was adapted to measure sexual adjustment. The original scale consisted of 10 items. However, some items were not relevant to the modern perception of well-adjusted sexuality (e.g., I am heterosexual). These items were removed from the survey, and the final scale consisted of 7 items (I feel good about myself; I experience guilt or anxiety when it comes to my sex life—reverse scored; I am happy with my sex life; I have sex more often than most people of my age and situation; I have experienced sexual problems—reverse scored; I would like my sex life to be more active—reverse scored; I am knowledgeable about sex). The items were rated on a 5-point Likert-type scale ranging from Strongly Disagree (1) to Strongly Agree (5). The scores were summed to produce an overall score of sexual adjustment ranging 7–35, with higher scores indicating better adjustment. The reliability of the scale in the current data was fairly low (Cronbach's α = 0.64).

2.2.6. Non-Sexual Nudity (NSN)

Three measures of NSN were explored throughout the study. First, the engagement of the participants in NSN was measured by directly asking the participants to report if they did engage in NSN (Yes/No). Furthermore, the participants were asked to indicate how frequently (Daily—4, Weekly—3, Monthly—2, Yearly—1, Never—0) they engaged in NSN across a variety of settings (public places such as a beach, private places such as a home, organized events such as the London Naked Bike Ride). The scores for these were then summed to produce an overall frequency of engaging in NSN across the various settings, with higher scores indicating higher frequency of engaging in NSN. Finally, the number of settings in which participants engaged in NSN was counted to produce a variety of NSN settings measures. As such, NSN was explored through NSN engagement, frequency of NSN engagement, and variety of NSN engagement.

2.2.7. Parental Non-Sexual Nudity (PNSN)

PNSN was explored through five measures. The exposure of the participant to PNSN during childhood was measured by directly asking the participants to reflect on their childhood and indicate if they remember being exposed to PNSN (Yes/No) and how frequently (Daily—4, Weekly—3, Monthly—2, Yearly—1, Never—0). In addition, the participants were asked to reflect on awareness of PNSN (Yes/No) and recall the frequency of engaging in PNSN (Daily—4, Weekly—3, Monthly—2, Yearly—1, Never—0) across a variety of settings (public places such as a beach, private places such as a home, organized events such as the London Naked Bike Ride). The scores for these were then summed to produce an overall frequency of PNSN engagement across the various settings, with higher scores indicating higher frequency of engaging

in NSN. Finally, the number of settings in which the parents have engaged in NSN was counted to produce a variety of NSN settings measures. As such, PNSN was explored through PNSN exposure and frequency of PNSN exposure, as well as awareness of PNSN engagement, frequency of PNSN engagement, and PNSN variety of engagement.

2.3. Procedures

The online questionnaire was made available to participants through Survey Monkey. As outlined above, the study was posted on social media sites, shared through forums, and advertised by the British Naturism society. Those who chose to participate were first provided with information about the study and were asked to formally consent to participate. Following consent, the participants were asked to complete a demographics questionnaire. Next, the participants were provided with the main measures: SWL, BAS, STAB, DASS, and the Sexual Adjustment survey. Finally, the participants were asked to complete the NSN and the PNSN questions. Following completion of the study, the participants were provided with a debrief sheet and contact details for further information.

3. Results

Due to the lack of empirical research on this topic, descriptive and explorative analyses were performed to better understand the phenomenon. Finally, MANOVA was performed to test the study hypotheses.

3.1. Descriptive Analysis

Descriptive analysis indicated that the sample was fairly well adjusted. Analysis indicated that the participants on the whole were fairly high on SWL ($M = 24.52$, $SD = 6.66$, $KS(178) = 0.129$, $p < 0.001$) and sexual adjustment ($M = 22.99$, $SD = 4.91$, $KS(178) = 0.08$, $p = 0.008$). In relation to mental health, the sample reported positively skewed scores on Stress ($M = 11.51$, $SD = 3.67$, $KS(178) = 0.12$, $p < 0.001$), Anxiety ($M = 9.61$, $SD = 3.25$, $KS(178) = 0.22$, $p < 0.001$), and Depression ($M = 10.72$, $SD = 3.65$, $KS(178) = 0.20$, $p < 0.001$). In relation to aggression, the participant scores were also significantly positively skewed for Physical Aggression ($M = 1.882$, $SD = 0.54$, $KS(178) = 0.15$, $p < 0.001$), Social Aggression ($M = 1.91$, $SD = 0.48$, $KS(178) = 0.11$, $p < 0.001$) and Rule Violation ($M = 1.17$, $SD = 0.24$, $KS(178) = 0.26$, $p < 0.001$).

The sample also reported fairly high NSN engagement and moderate PNSN exposure. From the full sample, 149 (83.7%) participants reported engaging in NSN. On average, the participants reported engaging in NSN across at least one setting ($M = 1.98$, $SD = 1.11$), with a negatively skewed frequency of engagement in NSN ($M = 5.20$, $SD = 3.27$, $KS(178) = 0.12$, $p < 0.001$). From the full sample, only 74 (41.6%) participants reported being exposed to PNSN, with a positively skewed frequency ($M = 1.10$, $SD = 1.52$, $KS(178) = 0.35$, $p < 0.001$). On average, the participants reported that PNSN was engaged across very few settings ($M = 0.38$, $SD = 0.74$), and the frequency was positively skewed ($M = 0.86$, $SD = 1.74$, $KS(178) = 0.45$, $p < 0.001$). A chi-squared analysis indicated that there was no association between engagement in NSN and exposure to PNSN ($\chi^2(1) = 0.72$, $p = 0.397$).

3.2. Explorative Analysis

Explorative analysis was performed to evaluate the relationship of NSN, PNSN exposure, and awareness of PNSN engagement with demographics. The Chi-squared analysis indicated that there was no significant association between PNSN exposure and gender ($\chi^2(1) = 0.91$, $p = 0.340$), having children ($\chi^2(1) = 0.01$, $p = 0.914$), ethnicity ($\chi^2(4) = 8.46$, $p = 0.076$), religion ($\chi^2(4) = 1.54$, $p = 0.820$), marital status ($\chi^2(4) = 1.08$, $p = 0.897$), and sexual orientation ($\chi^2(3) = 1.84$, $p = 0.606$). Furthermore, analysis indicated that awareness of PNSN engagement was not associated with gender ($\chi^2(1) = 0.93$, $p = 0.336$), having children ($\chi^2(1) = 0.34$, $p = 0.561$), ethnicity ($\chi^2(4) = 2.18$, $p = 0.703$), religion ($\chi^2(4) = 7.04$, $p = 0.134$), marital status

($\chi^2(4) = 2.51$, $p = 0.643$), and sexual orientation ($\chi^2(3) = 1.24$, $p = 0.744$) of the participant. Finally, participant NSN engagement had no significant association with participants' sexual orientation ($\chi^2(3) = 2.72$, $p = 0.437$).

However, the Chi-squared indicated that participant NSN engagement was significantly associated with the remaining participant demographics. The analysis indicated that NSN engagement had a significant association with gender ($\chi^2(1) = 36.45$, $p < 0.001$), with males being 11.57 times more likely to engage in NSN. In addition, NSN engagement was significantly associated with having children ($\chi^2(1) = 21.01$, $p < 0.001$), with those who have children being 7.59 times more likely to engage in NSN. Although there was a significant association found between NSN engagement and ethnicity ($\chi^2(4) = 13.49$, $p = 0.009$), religion ($\chi^2(4) = 43.81$, $p < 0.001$), and marital status ($\chi^2(4) = 22.23$, $p < 0.001$), many of the cell counts were below 5. As such, no further conclusions could be drawn.

Correlations were performed to evaluate the relationships among NSN engagement, awareness of PNSN engagement, PNSN exposure frequencies, and participants' age across a variety of settings. As outlined above, the assumption of normality was violated; as such, Spearman's Rho analysis was performed. The analysis indicated that age had a significant association with frequency of NSN engagement ($r_s = 0.58$, $p < 0.001$), variety of NSN engagement ($r_s = 0.55$, $p < 0.001$), and frequency of PNSN exposure ($r_s = -0.25$, $p = 0.001$). However, no significant associations were found between age and frequency of PNSN engagement ($r_s = -0.12$, $p = 0.110$) and variety of PNSN engagement ($r_s = -0.15$, $p = 0.050$). Interestingly, frequency of PNSN exposure was not associated with NSN (frequency of engaging in NSN: $r_s = 0.004$, $p = 0.953$; variety of engaging in NSN: $r_s = 0.002$, $p = 0.981$).

Finally, correlations were computed to examine the relationships between life outcomes and the frequency and variety of NSN engagement, as well as the frequency and variety of PNSN exposure and engagement. Since assumptions of normality were violated, a Spearman's Rho analysis was performed (Table 1). As Table 1 indicates, increased exposure to PNSN was associated with improved life satisfaction and increased social aggression. Furthermore, increased frequency and variety of PNSN engagement was significantly associated with improved life satisfaction, sexual adjustment, and body satisfaction. Finally, increased frequency and variety of NSN were significantly associated with improvements in all life outcomes, except sexual adjustment.

Table 1. Spearman's Rho correlations for frequency and variety of NSN and PNSN with life outcome variables.

	NSN		**PNSN**		
	Frequency of Engagement	**Variety of Engagement**	**Frequency of Exposure**	**Frequency of Engagement**	**Variety of Engagement**
Life Satisfaction	0.17 *	0.09	0.15 *	0.222 **	0.204 **
Stress	−0.29 ***	−0.33 ***	0.10	−0.009	0.061
Anxiety	−0.34 ***	−0.35 ***	0.08	−0.091	0.003
Depression	−0.23 **	−0.24 **	0.12	−0.067	−0.019
Physical Aggression	−0.19 *	−0.25 **	0.08	−0.030	−0.005
Social Aggression	−0.16 *	−0.26 **	0.24 **	0.080	0.086
Rule Violation	−0.17 *	−0.20 **	0.05	0.018	0.053
Sexual Adjustment	0.06	−0.05	0.14	0.205 **	0.155 *
Body Satisfaction	0.19 *	0.21 **	0.11	0.172 *	0.159 *

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

3.3. Hypotheses Testing

A MANOVA was performed to evaluate the three hypotheses. NSN engagement and PNSN exposure were entered as independent variables. Life satisfaction, body satisfaction, mental health, sexual adjustment and antisocial behaviour were entered as the dependent variables. Correlation analysis indicated that most

of the dependant variables intercorrelated, with only the antisocial behaviour measures having low correlations (Table 2). The Box's test indicated that the assumption of homogeneity of covariance was violated (Box's M = 295.42, F(135.00, 3570.78) = 1.67, p < 0.001). As such, Pillai's Trace will be used within the analysis. Cook's distance analysis indicated that there were no outliers within the data, and the scatterplots indicated that the relationships between the dependent variables were sufficiently linear. Finally, Q-Q plots indicated slight violations of normality across conditions. Despite the violations, MANOVA was performed because it is robust enough to handle violations of normality.

Table 2. Intercorrelation of life outcome variables.

	1	2	3	4	5	6	7	8	9
Life Satisfaction (1)	1	−0.33 ***	−0.37 ***	−0.50 ***	−0.22 **	−0.06	−0.28 ***	0.49 ***	0.19 *
Stress (2)		1	0.74 ***	0.74 ***	0.37 ***	0.35 ***	0.25 **	−0.34 ***	−0.22 **
Anxiety (3)			1	0.76 ***	0.40 ***	0.30 ***	0.21 **	−0.35 ***	−0.23 **
Depression (4)				1	0.35 ***	0.26 **	0.20 **	−0.42 ***	−0.23 **
Physical Aggression (5)					1	0.63 ***	0.45 ***	−0.07	−0.20 **
Social Aggression (6)						1	0.47 ***	−0.09	−0.09
Rule Violation (7)							1	−0.06	−0.09
Sexual Adjustment (8)								1	0.02
Body Satisfaction (9)									1

* p < 0.05, ** p < 0.01, *** p < 0.001.

The MANOVA indicated that NSN engagement had a significant main effect on the life outcomes (Pillai's Trace = 0.17, F(9, 166) = 3.71, p < 0.001, Partial Eta Squared = 0.17). However, the analysis indicated that there was no main effect of PNSN exposure (Pillai's Trace = 0.09, F(9, 166) = 1.75, p = 0.082, Partial Eta Squared = 0.09) or interaction effect (Pillai's Trace = 0.05, F(9, 166) = 0.89, p = 0.535, Partial Eta Squared = 0.05) on life outcomes.

Univariate effects were further explored for the NSN engagement. Levene's test indicated that homogeneity of variance was not met for anxiety (F(3, 174) = 3.75, p = 0.012), depression (F(3, 174) = 2.68, p = 0.049), physical aggression (F(3, 174) = 2.99, p = 0.032), rule violation (F(3, 174) = 3.55, p = 0.016), and body satisfaction (F(3, 174) = 3.54, p = 0.016). However, it was met for satisfaction with life (F(3, 174) = 0.97, p = 0.409), stress (F(3, 174) = 1.14, p = 0.333), social aggression (F(3, 174) = 1.17, p = 0.321), and sexual adjustment (F(3, 174) = 0.73, p = 0.537). However, ANOVA is a robust test that can cope with such violations. A Bonferroni correction was applied in order to control for Type I error, and the significance values were compared to a p < 0.006 level. Further exploration of the univariate effect indicated that NSN engagement had a significant effect on general mental health, with those who report engaging in NSN reporting lower levels of stress, anxiety, and depression (Table 3). In addition, the analysis indicated that those who engaged in NSN reported significantly lower levels of social aggression (Table 3). No other significant effects were found.

To explore the effects of awareness regarding PNSN engagement, an additional MANOVA was performed. Awareness of PNSN engagement and engagement in NSN were entered as independent variables. The NSN engagement was retained in the model due to its strong effect and the need to control for it. Life satisfaction, body satisfaction, mental health, sexual adjustment, and antisocial behaviour were entered as the dependent variables. As outlined before, most of the dependant variables intercorrelated (Table 2), no outliers were found, and the scatterplots showed sufficient linearity between the variables. The Box's test indicated that the assumption of homogeneity of covariance was violated (Box's M = 140.85, F(90, 16152.57) = 1.38, p = 0.010). As such, Pillai's Trace was used within the analysis. Finally, Q-Q plots indicated that the data were sufficiently normal, with slight violations for depression, anxiety, physical

aggression, rule violations, and body satisfaction. Despite the violations, MANOVA was performed because it is robust enough to handle violations of normality.

Table 3. Univariate analysis of NSN engagement across life outcomes.

		Engaging in NSN			
		***M* (*SD*)**	***F* (1, 174)**	***p* ***	**Partial Eta Squared**
Life Satisfaction	No	23.62 (5.10)	0.82	0.367	0.01
	Yes	24.69 (6.92)			
Stress	No	14.04 (4.23)	22.81	0.000	0.12
	Yes	11.02 (3.35)			
Anxiety	No	11.86 (4.01)	23.63	0.000	0.12
	Yes	9.18 (2.90)			
Depression	No	12.59 (4.24)	13.42	0.000	0.07
	Yes	10.36 (3.42)			
Physical Aggression	No	2.08 (0.67)	4.58	0.034	0.03
	Yes	1.84 (0.50)			
Social Aggression	No	2.15 (0.54)	9.65	0.002	0.05
	Yes	1.86 (0.46)			
Rule Violation	No	1.24 (0.28)	2.81	0.096	0.02
	Yes	1.16 (0.23)			
Sexual Adjustment	No	22.83 (5.06)	0.16	0.687	0.00
	Yes	23.03 (4.90)			
Body Satisfaction	No	34.28 (7.79)	3.65	0.058	0.02
	Yes	38.73 (10.95)			

* Bonferroni corrected $p < 0.006$.

The MANOVA indicated that there was a significant main effect of NSN engagement (Pillai's Trace = 0.18, $F(9, 166) = 4.10$, $p < 0.001$, Partial Eta Squared = 0.18) and awareness of PNSN engagement (Pillai's Trace = 0.12, $F(9, 166) = 2.46$, $p = 0.012$, Partial Eta Squared = 0.12) on life outcomes. However, there was no significant interaction effect found (Pillai's Trace = 0.08, $F(9, 166) = 1.67$, $p = 0.100$, Partial Eta Squared = 0.08).

Univariate effects were further explored for the NSN engagement and awareness of PNSN engagement. Leven's test indicated that homogeneity of variance was not met for life satisfaction ($F(3, 174) = 3.26$, $p = 0.023$), physical aggression ($F(3, 174) = 3.44$, $p = 0.018$), and body satisfaction ($F(3, 174) = 2.98$, $p = 0.033$). However, it was met for stress ($F(3, 174) = 1.60$, $p = 0.191$), anxiety ($F(3, 174) = 2.43$, $p = 0.067$), depression ($F(3, 174) = 2.12$, $p = 0.100$), social aggression ($F(3, 174) = 1.33$, $p = 0.265$), rule violation ($F(3, 174) = 1.87$, $p = 0.136$) and sexual adjustment ($F(3, 174) = 0.50$, $p = 0.681$). However, ANOVA is a robust test that can cope with such violations. Again, a Bonferroni correction was applied in order to control for Type I error (corrected $p < 0.006$). The univariate analysis indicated that NSN engagement had a significant effect on general mental health, with those who report engaging in NSN reporting lower levels of stress, anxiety and depression (Table 4). In addition, the analysis indicated that those who engaged in NSN reported significantly lower levels of social aggression and higher levels of body satisfaction (Table 4). Awareness of PNSN engagement had a significant effect only on stress, with those who reported being aware reporting slightly higher levels of stress.

Table 4. Univariate analysis of NSN engagement and awareness of PNSN engagement across life outcomes. *

		Engaging in NSN				Awareness of PNSN Engagement			
		***M* (*SD*)**	***F* (1, 174)**	***p***	**Partial Eta Squared**	***M* (*SD*)**	***F* (1, 174)**	***p***	**Partial Eta Squared**
Life Satisfaction	No	23.62 (5.10)	0.67	0.415	0.00	23.64 (6.92)	1.94	0.166	0.01
	Yes	24.69 (6.92)				27.28 (4.91)			
Stress	No	14.04 (4.23)	32.33	0.000	0.16	11.49 (3.50)	10.44	0.001	0.06
	Yes	11.02 (3.35)				11.58 (4.20)			
Anxiety	No	11.86 (4.01)	19.27	0.000	0.10	9.75 (3.21)	1.41	0.237	0.01
	Yes	9.18 (2.90)				9.19 (3.36			
Depression	No	12.59 (4.24)	12.67	0.000	0.07	10.81 (3.81)	1.91	0.168	0.01
	Yes	10.36 (3.42)				10.44 (3.11)			
Physical Aggression	No	2.08 (0.67)	3.84	0.052	0.02	1.90 (0.57)	0.01	0.911	0.00
	Yes	1.84 (0.50)				1.82 (0.43)			
Social Aggression	No	2.15 (0.54)	7.44	0.007	0.04	1.88 (0.48)	2.25	0.135	0.01
	Yes	1.86 (0.46)				1.99 (0.47)			
Rule Violation	No	1.24 (0.28)	3.78	0.053	0.02	1.17 (0.23)	1.11	0.293	0.01
	Yes	1.16 (0.23)				1.18 (0.26)			
Sexual Adjustment	No	22.83 (5.06)	0.94	0.333	0.01	22.60 (4.97)	0.01	0.938	0.00
	Yes	23.03 (4.90)				24.23 (4.58)			
Body Satisfaction	No	34.28 (7.79)	4.17	0.043	0.02	36.73 (10.11)	0.71	0.400	0.00
	Yes	38.73 (10.95)				42.00 (11.26)			

* Bonferroni corrected $p < 0.006$.

4. Discussion

There have been conflicting opinions about exposing children to nudity, with some members of society condemning this behaviour as child abuse and others suggesting it has beneficial outcomes. However, empirical research on the effects of exposing children to nudity is sparse. The current study aimed to address this gap and explore the impact of exposure to PNSN on life outcomes. To accomplish this, 178 adult participants were asked to reflect on their exposure to PNSN throughout their childhood and report their current levels of life satisfaction, general mental health (stress, anxiety, and depression), antisocial behaviour (physical aggression, social aggression, and rule violation), sexual adjustment, and body satisfaction. Since engagement in NSN has been shown to have a positive effect on most of these life outcomes, e.g., [4,5], it was explored further in this study, as was awareness of PNSN engagement.

Explorative analysis indicated that a moderate proportion of the sample was exposed to PNSN and a large proportion engaged in NSN. It was found that demographic factors were not associated with PNSN. However, demographics were associated with engagement in NSN, with more males, older individuals, and those with children reporting engagement. However, these findings may not necessarily suggest that males and older individuals are more likely to engage in NSN. Alternatively, it is likely that mature males are more comfortable taking part in naturism related research. Furthermore, since the study was advertised as focusing on childhood experience of PNSN, it may have attracted more naturist parents rather than non-parents. However, these findings should be further explored to confirm this.

It was hypothesised that those engaging in NSN would report better life outcomes than those who did not. Consistent with previous literature [5,23], it was found that those engaging in NSN reported significantly higher levels of body satisfaction. Furthermore, it was found that increased frequency and engaging in NSN across more settings was significantly associated with higher levels of life and body satisfaction. These findings support the argument that exposure to non-idealised bodies will improve the individual's perception of their own bodies [4,5]. It suggests that the greater the exposure, the better the

effects. However, further empirical explorations are needed to confirm the direction of the relationship between engaging in NSN and body satisfaction.

Also, in relation to the first hypothesis, it was found that those engaging in NSN reported significantly lower levels of general mental health problems (depression, anxiety, and stress). Furthermore, explorative analysis indicated that increased frequency of NSN and engaging in NSN across a greater variety of settings were associated with lower mental health problems. This suggests that engaging in NSN should not be pathologised as some believe [24,25]. It is possible that the positive effect of NSN is mediated or moderated by improved self-esteem, as previous studies have indicated that engaging in NSN can improve self-esteem [5], which has been linked to lower depression and anxiety levels [26]. Unfortunately, this study did not evaluate the self-esteem of the participants, and future studies should address this limitation by exploring the interaction of NSN and self-esteem.

Finally, it was also found that those engaging in NSN reported significantly lower social aggression, and similar levels of physical aggression, rule violation, and sexual adjustment as those who do not engage in NSN. Further explorative analysis indicated that increased frequency of NSN and engaging in NSN across a greater variety of settings were associated with lower levels of antisocial behaviour. Although this too lends support that engaging in NSN should not be pathologised, these findings may be the results of social desirability. The current sample was obtained with the support of BN, and given the negative stigma associated with naturism, the participants may have felt pressure to present naturism in a positive light. Future studies should aim to measure and control for social desirability effects in the sample.

When interpreting these findings, it should be noted that the recruitment strategy constitutes a major limitation to external validity. Because recruitment was supported by British Naturism and supplemented by social media, individuals already interested in, supportive of, or comfortable with naturism may have been disproportionately likely to participate. This concern is reinforced by the fact that 83.7% of the final sample reported engaging in NSN. Accordingly, the sample should be understood as a self-selected convenience sample with substantial enrichment for adult NSN engagement rather than as representative of the general population. This selection process may also be associated with body acceptance, openness, attitudes toward nudity, shame, social identification and psychological wellbeing, creating potential confounding when adult NSN engagement is treated as a predictor.

Furthermore, the current study utilised a correlational design, as such, causal relationships cannot be inferred. Although the study found significant differences, it does not mean that engaging in NSN improves wellbeing. In fact, this could be a result of a self-selection, with individuals who already experience greater body comfort, lower shame or better psychological functioning being more willing to participate in naturist activities. Further experimental and longitudinal research will need to be conducted to evaluate the causal links. However, before such research is commissioned, it should be noted that the effect sizes of the significant findings were small, and researchers should consider whether other variables could make more meaningful contributions to the literature on NSN.

The second hypothesis proposed that those exposed to PNSN would not exhibit more negative outcomes in adulthood than those with no exposure to PNSN. The MANOVA indicated that those exposed to PNSN had similar life outcomes scores to those who were not exposed, except for stress levels. Those who reported awareness of PNSN also reported higher levels of stress. However, the effect size of this difference was small. Although this supports the notion that those who were exposed to PNSN in childhood may not have more negative life outcomes, it may also suggest that exposure to PNSN does not have as much positive effect as previously expected [17]. On the other hand, explorative analysis indicated that increased frequency of PNSN exposure was associated with higher life satisfaction in adulthood, which is in line with previous research, e.g., [14,17] supporting the notion that exposure may not be as harmful as perceived by society and practitioners [3,6]. However, longitudinal and experimental research should be conducted before causal conclusions can be drawn.

Contrary to expectations, explorative analysis also indicated that increased frequency of PNSN exposure was associated with higher levels of social aggression. Although this suggests that PNSN may be associated with more negative outcomes, this study did not control for a variety of confounding factors that could explain this relationship. For example, social aggression has been associated with personality disorders [27] and psychopathy [28]. As such, further research is needed to better understand the relationships between PNSN and social aggression and possible moderating factors that could explain this relationship.

Although PNSN exposure did not have a significant effect on most of the life outcomes, awareness of PNSN engagement did. Explorative analysis indicated that those aware of PNSN engagement had a slightly more elevated stress levels than those who were not. It is possible that this increase in stress levels may be associated with the social disapproval that nudity in general receives. In fact, Smith and Sparks [3] have found that families who engage in social or home nudism conceal these aspects of their life due to a fear of disapproval. As such, the stress may not be a direct reflection of awareness, but rather a result of the social pressure. Future studies should explore the perceived social pressure surrounding nudity and the impact it may have on the stress levels of the families engaging in naturist activities.

Furthermore, explorative analysis indicated that awareness of increased frequency and variety of PNSN engagement was significantly associated with improved life satisfaction, sexual adjustment and body satisfaction. However, should not be interpreted as a direct causal effect. In fact, it is possible that those who engage in NSN may raise their children differently, encouraging greater acceptance of their bodies and life. Further qualitative research is needed to explore the upbringing of children in naturist families to better understand this phenomenon.

It should be noted that the PNSN measures capture reported exposure, frequency, awareness, and number of settings, but do not assess important contextual characteristics such as the participant's subjective emotional response, perceived safety, voluntariness, boundary respect, parental intentions, or the quality of the parent-child relationship. Consequently, the present measures cannot precisely distinguish routine, accepted family nudity from experiences that a child may have experienced as unwanted, distressing or boundary violating. The term PNSN therefore refers to the reported exposure category used in this study and should not be interpreted as establishing that all reported experiences were equivalent in meaning or context. Furthermore, PNSN was assessed retrospectively across a very wide age range, creating potential recall and reconstructive bias.

The third hypothesis anticipated that there will be an interaction effect between NSN engagement and PNSN exposure on life outcomes. However, the analysis did not support this hypothesis. These findings are consistent with the chi-squared analysis, which suggests no association between engagement in NSN and exposure to PNSN. This suggests that engaging in NSN and exposure to PNSN do not have a compounding effect and are independent of each other.

Although the findings of this study partially support the main hypotheses, further research is required to confirm them and address its limitations. In addition to those outlined above, the current sample was predominantly British and did not allow for cultural comparisons. Goldman and Goldman [29] interviewed children from Australia, North America, England and Sweden about their understanding of clothing, nudity and modesty. Results indicated that children from English speaking countries insisted that clothing should be worn. However, children from Sweden were less insistent, despite being from a colder climate. Therefore, future research should aim to explore cultural differences in perception of nudity and its impact on life outcomes.

Furthermore, the PNSN measures capture reported exposure, frequency, awareness, and number of settings, but do not assess important contextual characteristics such as the participant's subjective emotional response, perceived safety, voluntariness, boundary respect, parental intentions, or the quality of the parent-child relationship. Consequently, the present measures cannot precisely distinguish routine, accepted family nudity from experiences that a child may have experienced as unwanted, distressing, or boundary-violating.

The term PNSN therefore refers to the reported exposure category used in this study and should not be interpreted as establishing that all reported experiences were equivalent in meaning or context.

Finally, the study also contained analytical concerns. For example, a number of the scales used showed low reliability, suggesting that they may not be as effective in measuring the phenomenon they intend to. In addition, although Pillai's Trace is generally more robust than alternative multivariate statistics under some assumption violations, the combination of non-normal distributions, significant Box's *M* tests and several significant Levene's tests means that the robustness of the present MANOVA should not be overstated. The results are therefore best treated as provisional evidence of group differences rather than definitive estimates.

Over the years, NSN has become less taboo, with numerous individuals reporting engagement in nude sunbathing [30] or in worldwide events, such as the naked bike rides [31]. However, society still associates these behaviours with sexually deviance [25,32] and, as a result, many who engage in these behaviours try to hide it [3]. Furthermore, certain countries condemn non-sexual nude behaviours. Even on private property, nudity is illegal in some states in America, such as Arkansas (Arkansas Code S5-14-112) [33]. In many other countries, there are laws that aim to addresses indecent exposure (e.g., Canada; R.S.C. 1985, c. C-46) [34] or criminalise non-sexual nudity (e.g., Singapore; Miscellaneous Offences (Public Order and Nuisance) Act, C184, S27A) [35]. Although previous literature proposed that exposure of children to NSN may cause trauma and result in negative life outcomes, this study did not find this. The findings suggest that new directions of research and social perception change are needed, where PNSN nudity is clearly differentiated from childhood abuse and, with further empirical support, decriminalised and depathologised. Well-developed empirical research may further show beneficial effects of exposing children to non-idealised bodies through NSN, making them more comfortable with themselves and less fearful of social disapproval and the stigma surrounding this behaviour.

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Author Contributions

Conceptualization, M.R., K.K.S. and D.T.; Methodology, M.R. and D.T.; Formal Analysis, M.R.; Writing—Original Draft Preparation, M.R. and D.T.; Writing—Review & Editing, K.K.S.

Ethics Statement

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by Regent's University London School of Psychotherapy and Psychology Ethics Committee on 28 February 2017 (Ref 17.00).

Informed Consent Statement

Informed consent was obtained from all subjects involved in the study.

Data Availability Statement

Data available by contacting the corresponding author.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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