

14.4.2021

IN PRESS: JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY

Parental Listening When Adolescents Self-Disclose: A Pre-Registered Experimental Study

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To cite: Weinstein, N., Huo, A & Itzchakov, G (in press), Parental Listening When Adolescents Self Disclose: A Pre-Registered Experimental Study, *Journal of Experimental Child Psychology*

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Author contributions: All authors collaborated on the conceptual development of the project. AH led stimuli development, and NW and GI led stimuli validation. NW led data analysis with assistance from AH. NW led manuscript write-up but all authors heavily contributed to the manuscript.

Funding: The project was funded internally by the research team.

Abstract

Parental listening is believed to be an important quality of parent-child interactions, but its effects on adolescents are not well understood. The present study experimentally manipulated parental listening in video recordings of an adolescent's self-disclosure to test effects on anticipated well-being (positive affect, self-esteem, and less negative affect) and self-disclosure intention. Good listening was manipulated in two situations relevant to vaping: hurt feelings of alienation from pressuring peers, and having transgressed by vaping. Participants ($N = 1001$) aged 13-16 years viewed videos and reported on their anticipated reactions. Following a pre-registered analytic plan, viewing good listening was found to predict greater well-being and self-disclosure intention. Consistent with self-determination theory, anticipated psychological need satisfaction for autonomy (freedom to be self-congruent) and relatedness (connectedness to parents) mediated the effects of listening on downstream outcomes. Parental listening effects on adolescent outcomes generalized across both situations of disclosure in line with pre-registered hypotheses.

Keywords: Listening; Self-Disclosure; Psychological Need Satisfaction; Adolescence; Well-Being

Parental Listening When Adolescents Self-Disclose: A Pre-Registered Experimental Study

“Listening is where love begins.”

Fred (Mister) Rogers, 2006

In the humanistic tradition, parental listening is seen as an important factor of parent-child interactions that shape ensuing children’s emotional and psychosocial well-being (Rogers, C., 1962, 1967; Rogers, F., 2006). Feeling listened to may be especially important for adolescents, who are less likely to share personal experiences (Smetana et al., 2006) as they explore and assert their independence from parents (Hoffman, 1984; Smetana et al., 2005). Yet, despite the important role parental listening may play in facilitating development and well-being, little empirical work has been conducted to isolate its effects. In this study, we experimentally manipulated parental listening behaviors (either good or moderate) in videotaped interactions between a parent and an adolescent, and elicited reactions to the listening parent from 1,001 adolescents (aged 13-16 years).

Listening and Adolescent Well-Being

Though speakers perceive listening holistically (Kluger et al. 2020; Lipez et al. 2020), listening is a multifaceted construct that entails a safe, receptive space for a speaker’s expression (also known as positive intention) and active attention (Itzhakov & Kluger, 2017; Worthington & Bodie, 2018). Listening is conveyed through largely non-verbal strategies termed back-channeling (Bavelas et al., 2000). For example, the listener shows attention through consistent eye contact (Bavelas et al. 2002), and body language such as leaning towards the speaker with an inclined head, head-nodding, and minimal sounds such as “umm” and “ahh” that express openness and receptivity (Geerts et al., 1997). To demonstrate positive intention, listeners may use intermittent verbal responses, for example, “thank you for sharing that experience with me, I assume it wasn’t easy for you.” Done well, this form of listening expresses positive regard, validation, and non-judgment during the conversation (Rogers, 1980), even when the listener does not agree with the speaker (Rogers, 1962).

Although, to our knowledge, no research has isolated parental listening to understand its impacts on adolescents, indirect evidence for the importance of parental listening for youngsters' well-being is offered through research on parents' perspective-taking (Mageau et al., 2017), parental responses to adolescent self-disclosures (Disla et al., 2019), and parental scaffolding of children's stories (McLean & Jennings, 2012). Furthermore, training programs designed to improve parents' acceptance of children's emotions (Katz & Hunter, 2007), and their ability to support youngsters in the service of children's agentic functioning and mental health (Joussemet et al., 2014), recognize but do not isolate the role of listening. For example, scaffolding (McLean & Jennings, 2012) also involves conversational behaviors such as confirming versus disagreeing with stated views, and parental training involves using informational versus evaluative verbal responses (Joussemet et al., 2014). Thus, various forms of supportive parenting (e.g., autonomy-supportive parenting that facilitates choiceful and volitional action and self-congruent expression through acceptance, supporting agency, or taking adolescents' perspectives, Ryan & Deci, 2017) suppose that listening is an important strategy that can be used alongside other actions and words to provide support. In sum, existing studies assume that listening may promote adolescent well-being, but they do not directly test listening in isolation from other characteristics of supportive parent-child interactions.

Listening and Self-Disclosure Intention

Alongside benefiting well-being, listening may influence adolescents' intention to disclose in the future because it improves the relationship between the parent and adolescent (Darling & Steinberg, 1993; Vieno et al., 2009). For example, parents' non-supportive behaviors, such as acting disappointed, sad, or lecturing, can inhibit adolescents' future self-disclosure (Soenens et al., 2006; Tokić & Pécnik, 2011). Bearing this in mind, the current study aimed to bridge this gap in understanding by testing the effects of perceived parental listening—either good or moderate quality—on adolescents' expectations of their own well-being and intention to self-disclose in the future.

Digging deeper, though adolescents may self-disclose any (trivial or meaningful) experience to parents, we focus on two examples of meaningful disclosure situations which involve negative emotions that might be met with different expectations for parents: the first, feeling *hurt*—we explore in terms of the adolescent sharing alienation from peers who were engaging in an illicit behavior: vaping. The second, *transgression*—we explore in terms of the adolescent expressing remorse for having done something wrong, namely engaged in the illicit behavior of vaping. In the case of transgression, parents are challenged to listen non-judgmentally despite wrongful behavior on the part of their adolescent, and so adolescents seek clear indication that disclosing a transgression will not elicit negative reactions from the parents (Smetana et al., 2006; Soenens et al., 2006). Though adolescents tend to disclose more their hurt than their transgressions (Chaparro & Grusec, 2015), both disclosure situations are laden with negative emotions that must be well-received by parents. Thus, a-priori we anticipated listening will be important in both contexts, showing generalizability of effects, despite their specific qualities.

Listening and Psychological Need Satisfaction

Self-determination theory (hereafter: SDT; Ryan & Deci, 2017) is useful for understanding *why* good parental listening may foster well-being and adolescents' self-disclosure intentions. SDT argues that people have basic psychological needs for autonomy, relatedness, and competence, which can be satisfied through supportive interpersonal encounters (Deci & Ryan, 2008). Our study focused on autonomy and relatedness as two psychological needs that should be especially influenced by parental listening during self-disclosure conversations; we did not measure competence because listening was depicted during a disclosure conversation with no concrete activity or goal involved to produce a sense of efficacy in youngsters. We expected that being listened would satisfy the psychological need for *autonomy*—for being in touch and true to oneself through self-expression, self-congruence, and self-volition because speakers feel validated, free to express, and supported in having their genuine

experiences (Deci & Ryan, 1995; Scholl et al., 2014). In addition, good listening is likely to satisfy the need for *relatedness*—feeling close and connected to others (La Guardia & Ryan, 2002), because speakers feel a sense of connection and intimacy with the listener (Kluger et al., 2020). Indeed, the humanistic tradition has highlighted the role of both psychological needs in the context of listening, namely, that individuals feel their self is validated and fortified by others, and simultaneously that they continue to be loved despite their self-disclosures (Kahn, 1998; Rogers, 1980). Within SDT, theorists also discuss the role of listening as one way to provide support, but have not tested this assertion (Lietaert et al., 2015; Reeve & Jang, 2006; Vansteenkiste & Sheldon, 2006), and more recently, experimental studies with young adult strangers have shown that manipulated in-lab listening fosters autonomy and relatedness need satisfaction for speakers (Itzhakov & Weinstein, in press).

In turn, autonomy and relatedness need satisfaction promotes well-being and youngsters' willingness to be further vulnerable in the relationship (Costa et al., 2016; Deci & Ryan, 2014). For example, adolescents' psychological need satisfaction predicts more positive and less negative affect in the short term (Kocayoruk, 2012; Véronneau et al., 2005), and more positive affect and self-esteem over time (Gagné, 2003; Kipp & Weiss, 2015). In addition, perceiving mothers' autonomy support—support for feeling choiceful and understood—when rules are set to regulate technology use predicts more self-disclosure intention related to adolescents' technology use (Weinstein & Przybylski, 2019), when discussing friendships in a lab setting (Wuyts et al., 2018), when disclosing stigmatized identities (Ryan et al., 2015), and after making mistakes (Roth et al., 2009). Taking this body of work together, we might anticipate that being listened to during an important self-disclosure satisfies the basic psychological needs for autonomy and relatedness of adolescents, which in turn explains why listening is beneficial to well-being and self-disclosure intention (see Figure 1).

Overview of the Present Research

We designed an experimental study to provide a first causal test isolating the effects of listening quality in parent-adolescent relationships on anticipated autonomy and relatedness psychological need satisfaction, well-being, and future self-disclosure intention. To achieve this, we carefully developed experimental stimuli consisting of videotaped vignettes of an adolescent speaker and parent listener, and randomly assigned adolescent participants aged 13-16 years to receiving one out of four videos in a 2 (Listening: good vs. moderate listening) X 2 (Disclosure Situation: transgression vs. hurt) design. Video vignettes were validated through multiple rounds of preliminary data collection (https://osf.io/vscau/?view_only=7a70b6e468a64f3a9d971116c91e8c17; *anonymized for peer review*) to ensure they directly and effectively manipulated listening behaviors. Vignettes offered four advantages. First, to enrich experimental realism (Aguinis & Bradley, 2014), adolescents reflected on how they, themselves, would feel in the given situations, and by viewing videos, they could readily imagine themselves in visualized interactions with parents and envisage their own response in real-time (rather than retrospectively). Second, vignettes carefully manipulated listening without concurrently changing aspects of the interaction that clearly involve supportive speech and non-listening behaviors (e.g., hugs). Third, vignettes isolated the causal effect of listening on downstream outcomes from cumulative and reciprocal effects that are characteristic of parent-child relationships (Darling et al., 2006). Finally, vignettes were useful for reducing bias by social desirability and halo effects (Steiner et al., 2016), both of which are likely to influence reports of the specific listening behaviors under study, which take place in the larger context of a meaningful and complex relationship with one's parent.

The experiment was pre-registered prior to data collection (https://osf.io/vscau/?view_only=7a70b6e468a64f3a9d971116c91e8c17), and confirmatory hypotheses (H1-7; Figure 1) building on the literature reviewed above were as followed: Participants assigned to the good versus moderate listening conditions would report greater (H1) autonomy need satisfaction,

(H2) relatedness need satisfaction, (H3) well-being, and (H4) self-disclosure intention (H5). The main effects would be present across both disclosure situations: transgression and hurt. Furthermore, we anticipated that across transgression and hurt disclosure situations, the effects of listening condition on (a) well-being and (b) self-disclosure intention would be mediated by (H6) Autonomy need satisfaction, and (H7) Relatedness need satisfaction.

Method

Participants and Procedure

Participants were recruited in collaboration with a research company ICM Unlimited (<https://www.icmunlimited.com>), for a procedure approved through the [masked for peer review] ethics committee (num. 2020-066). No hard quota controls were set. However, ICM set soft quotas to ensure a good spread of respondents by age (13, 14, 15 vs. 16-year olds), gender, and region across the U.K. Because the study asked participants to put themselves in an adolescent's shoes interacting with his mother, those not currently living with or who did not have regular contact with their mother, stepmother, or adoptive mother were screened out.

ICM contacted parents first with an invitation email containing the link to the survey. The first part of the survey was targeted at adults of an appropriate age range (c. 30-50). Parents were asked whether they had children of the relevant age group (13-16-year olds) and asked for their child's consent to participate in the research. The survey was then passed onto their child, who also saw the information sheet and asked for their consent to take part in the survey with age-appropriate language. Parents were then given an audio test to ensure the manipulation could be played correctly on their home screens. Parents left the room, and adolescents completed the study.

We recruited 1001 adolescents residing in the U.K. between the ages of 13-16 years, of which 66 failed our pre-registered manipulation check: "in this question, please mark the number 4". The final sample was split fairly evenly across two genders: boys, $n = 493$; girls, $n = 439$, with 3

participants identifying as another gender. Ages were also evenly split across the four years recruited: $n_{13 \text{ years}} = 238$, $n_{14 \text{ years}} = 243$, $n = 233_{15 \text{ years}}$, and $n = 221_{16 \text{ years}}$.

Vignettes are often used to manipulate listening (e.g., Itzchakov et al., 2020, 2018), and in the context of caregiver-child relationships (e.g., Rah & Parke, 2008; Weinstein & Przybylski, 2019). Rather than using written vignettes as had been previously done, we selected to show video interactions that demonstrated non-verbal and verbal behaviors of listeners rather than merely describing them. This decision was intended to increase ecological validity by creating concrete experiences of good and moderate listening and reduce the likelihood that participants would project their globally positive or negative experiences with parents onto the manipulated stimulus.

The study crossed listening quality (good vs. non-moderate) and disclosure situation (hurt vs. transgression). Therefore, participants were randomly assigned to one of four conditions and viewed a video, described in more detail below, corresponding with their assigned condition. A randomization check identified that participants did not differ on initial attitude toward vaping as a function of either listening quality or disclosure situation conditions, $F_s(1, 932) < 0.63$, $ps > .42$; the randomization process resulted in samples with comparable initial attitude toward the disclosed activity. Two further randomization checks showed the process distributed age and gender successfully across conditions; age: $F_s(1, 932) < 1.75$, $ps > .18$, gender: $F_s(1, 932) < 0.32$, $ps > .58$. Following this, participants completed surveys assessing outcomes of interest as well as individual difference measures¹. Finally, adolescent participants were debriefed regarding the nature of the study and invited to contact researchers with questions.

Power analysis. We estimated statistical power using the average effect of listening on well-being in young adults and adults as a benchmark. A meta-analysis of all the listening studies that

¹ Additional measures were: individual differences in self-disclosure, mothers' own listening, and attitudes toward vaping. These were peripheral to the core research questions and are not presented here.

included $k = 208$ effects, $N = 110,396$ indicated this effect is $r = .28$ (Kluger, 2020), equalling Cohen's f of .26. Sensitivity analysis using G*Power (Faul et al. 2007) indicated that the smallest effect size that the present sample size can detect with a power of .95 in a 2 X 2 design is $f = .14$. Therefore, our sample was highly powered to detect our hypothesized main effects of the Listening manipulation, or an interaction between the Listening and Disclosure Situation manipulations.

Materials

Videos

Videos were designed to manipulate listening in two disclosure situations to test the generalizability of listening effects. To select disclosure situations, we asked seven 17- and 18-year old adolescents which of several disclosure topics would be most benefited by a parent's listening ear. In brief interviews with adolescents, we asked them to select from a shortlist of theory-informed topics (e.g., negative vs. positive emotions; social rejection; cyberbullying). The consensus was that both interpersonal hurt through alienation and transgression would be important and realistic conversations for teens.

To make consistent the content of four videos representing each of the four conditions in the 2 (Listening Quality) X 2 (Disclosure Situation) design, we wrote four scripts (one script per video) for each condition (e.g., transgression: moderate listening). These scripts (posted at https://osf.io/vscau/?view_only=7a70b6e468a64f3a9d971116c91e8c17) gave adolescents specific instructions to manipulate the content of self-disclosure consistently across the two listening conditions (moderate vs. good), and they gave parent-listeners specific instructions to manipulate the content of listening consistently across the two situations of disclosure. For example, scripts manipulated listening through consistent attention or period distractedness of listeners, identically across the two disclosure situations (transgression vs. hurt). To ensure we were isolating listening (from other

parental inputs), instructions for listeners were to convey positive intention and attention primarily, but not entirely, through the use of back-channeling.

Five dyads of parents and their adolescents agreed to produce the stimuli, and one researcher-adolescent set was recorded. Dyads received close instructions on their positioning (e.g., 40-60 cm from the camera, capture the parent looking at the adolescent). Dyads practiced until comfortable to proceed with recordings. Given the novelty of the approach, we validated videos throughout the stimuli selection process to ensure they appropriately manipulated good listening; this procedure resulted in a final set of four videos presented by the strongest listener-speaker dyad. To select the best dyad, we followed a three-step validation procedure comprised of four pilot studies with a separate sample of adolescents, listening researchers, and listening experts (e.g., consultants, therapists) described in detail as supplemental material

(https://osf.io/vscau/?view_only=7a70b6e468a64f3a9d971116c91e8c17). To summarize the process, the goal of the first validation task was to critically review a first attempt to record the four experimental stimuli with a real-life parent-child dyad. Six early-career listening researchers and their supervisor independently coded the listening quality of the four conditions acted out by the first dyad. Following this, they held a joint discussion regarding the videos to provide recommendations for improving the experimental stimulus. Following this, we undertook two other tasks to select the best listener(s) from four new dyads. We asked youngsters (largely aged 18 years; $n = 34$) and the researchers from the previous validation task to rate all the videos on how well each depicted concrete listening behaviors used to convey attention and positive intention. In a final data collection, twelve experts on listening ($n = 4$ consultants, $n = 2$ therapists, $n = 5$ researchers, and 1 who identified as both researcher and therapist) naïve to the goals of the study rated only the speaker selected by youngsters and early career researchers in the previous step of the validation process. Experts rated this final listener as using more effective listening behaviors in the good listening conditions ($M = 8.64$, $SD =$

1.17) than in the moderate listening conditions ($M = 4.08$, $SD = 1.53$); such that the good versus moderate listening main effect was, $t(11) = 9.67$, $p < .001$, $d = 5.83$.

Measures

Listening perception (manipulation check). Participants responded to eight items from the constructive listening behavior scale (Kluger & Bouskila-Yam, 2018). As pre-registered, two items were excluded before running the study (namely, “Asked questions that show their understanding [their child’s] opinions” and “Encouraged their child to clarify a problem”). These aspects of listening were intentionally not manipulated in the current study, which instead focused on the receptive (vs. questioning) aspects of listening to simulate a supportive discussion that is natural and commonplace to parent-child interactions. The stem “to what extent, if at all, do you feel the parent in this scenario...” was followed by items such as “tried hard to understand what their child is saying” and “gave her child undivided attention”, paired with a scale ranging from 1 (*not at all*) to 7 (*very much*); $\alpha = .96$.

Transgression perception (manipulation check). The disclosure situation manipulation was also checked with the question: “How did the child *behave* in the situation described?” paired with a Likert-type scale ranging from 0 (*not bad at all*) to 8 (*extremely bad*).

Psychological need satisfaction. Psychological need satisfaction was measured with ten items building on the basic psychological need satisfaction scale (which originally includes six items to test these two subscales; La Guardia et al., 2000). The goal was to create a reliable and context-appropriate measure of each psychological need. Participants responded to the stem: “If I were the child/young person in this situation talking to my mum, I would....”. Five items measuring autonomy need satisfaction included, “feel free to be who I am” and “feel free to express my emotions,” and five items measuring relatedness need satisfaction included, “feel cared about” and, “feel closeness and

intimacy.” Items were paired with a Likert-type scale ranging from 1 (*never*) to 7 (*always*). Both subscales showed high internal reliability: autonomy $\alpha = .90$, relatedness $\alpha = .78$.

Well-being. The well-being composite comprised three subscales: positive affect, negative affect (reversed), and self-esteem. The Positive and Negative Affect Schedule (Watson et al., 1988) evaluated positive affect (PA; with adjectives including enthusiastic and proud) and negative affect (NA; with adjectives including distressed and guilty) following the stem “Please think about each mood or feeling below, and indicate the extent to which you would feel this way after the conversation you saw in the video”; PA $\alpha = .93$ and NA $\alpha = .91$. In addition, the 10-item Rosenberg self-esteem scale (Rosenberg, 1965) used the stem “if I were the child/young person in this scenario, I would feel... that I am a failure”; $\alpha = .91$. The three scales, paired with a Likert-type scale ranging from 1 (*not at all*) to 7 (*very much*), were averaged after the NA subscale was reverse-coded (higher-order $\alpha = .73$), as had been done in previous studies operationalizing well-being through these measures (e.g., Weinstein & Ryan, 2010; Weinstein & Stone, 2018).

Self-disclosure intention. Self-disclosure intention was measured by assessing the likelihood that the child in the video would self-disclose ten topics in the future, for example, their secrets and what is important to them (Miller et al., 1983). Participants were asked, “How much, if at all, do you think the child in the video would tell their mum the following things in the future after the conversation they had?”. Since items involve concrete behaviors, this scale was kept intentionally non-personal so that participants would not base responses on their own past behaviors and parental relationships. Ten items were paired with a Likert-type scale ranging from 1 (*never*) to 7 (*always*); $\alpha = .96$.

Results

Correlations

Table 1 presents descriptive information and Pearson correlations between all study variables, including the lower-order subscales that comprised our well-being composite. See also Figure 2, which depicts correlations between perceived listening and study outcomes. In short, perceived good listening was a robust correlate of listening outcomes, whereas the perceived disclosure situation was not.

Analytic Strategy for Condition Effects

Following the pre-registered analytic plan, we conducted a 2 X 2 analysis of variance (ANOVA) with manipulation checks and outcomes (autonomy and relatedness need satisfaction, well-being, and self-disclosure intention) as dependent variables. These models allowed us to test the listening manipulation's main effects (Hypotheses 1-4). When models yielded significant interaction effects (Listening X Disclosure Situation), we then tested simple main effects to evaluate Hypothesis 5, that the effect of the Listening manipulation would be in evidence in both transgression and hurt disclosure situation conditions.

Manipulation Checks

Table 2a presents descriptive statistics for each construct by experimental condition and the main effects of the Listening and Disclosure Situation manipulations. Table 2b further presents interaction effects (Listening X Disclosure Situation), and simple effects providing the interaction were statistically significant.

Listening manipulation check. A main effect was present of the Listening manipulation on the manipulation check, $\eta^2_p = .33$, such that perceived listening was higher quality in the good listening conditions ($M = 6.07$, $SD = 0.90$) as compared to the moderate listening conditions ($M = 4.34$, $SD = 1.50$). There was no main effect of the Disclosure Situation manipulation, $\eta^2_p = .003$ (Table 2a), but a modest interaction between the two, $\eta^2_p = .01$, qualified the main effect of the Listening manipulation. Simple effects showed the effect of listening was stronger in the hurt condition, $\eta^2_p =$

.39 than in the transgression condition, $\eta^2_p = .27$ (Table 2b). In conclusion, the Listening manipulation was successful, slightly more so in the hurt conditions as compared to the transgression conditions.

Disclosure situation manipulation check. We also set out to test whether adolescents understood the difference between the two disclosure situations (transgression vs. hurt). A main effect of the Disclosure Situation manipulation predicted perceived transgression (i.e., how badly the child behaved), $\eta^2_p = .17$. The transgression disclosure condition led to greater perceived transgression ($M = 3.30$, $SD = 2.19$) than the hurt disclosure condition ($M = 5.12$, $SD = 2.00$). No main effect was evident for the Listening manipulation, $\eta^2_p = .004$. In conclusion, the Disclosure Situation manipulation was successful.

Pre-Registered (Confirmatory) Analyses

Main effects of listening. The Listening manipulation showed main effects supporting Hypotheses 1-4. As can be seen in Table 2a, when compared to the moderate listening condition, the good listening condition showed greater autonomy need satisfaction, $\eta^2_p = .04$, relatedness need satisfaction, $\eta^2_p = .07$, well-being, $\eta^2_p = .09$, and self-disclosure intention, $\eta^2_p = .18$.

Interaction effects of the Listening X Disclosure Situation manipulations. As can be seen in Table 2b, the main effects of the Listening manipulation were qualified by interactions predicting autonomy need satisfaction, $\eta^2_p = .01$, well-being, $\eta^2_p = .01$, and self-disclosure intention, $\eta^2_p = .01$. Simple effects also summarized in this table showed that that good listening predicted greater autonomy need satisfaction, well-being, and self-disclosure intention in the hurt: $\eta^2_{ps} = .07$ -.24, than in the transgression, $\eta^2_{ps} = .02$ -.15, disclosure conditions. Despite these differences, the Listening manipulation was a statistically significant predictor of all outcomes within both disclosure situation conditions, supporting Hypothesis 5 (Table 2b).²

² Because disclosure situation also interacted with the listening conditions in predicting the manipulation check (i.e., perceived listening), we tested on a purely exploratory basis whether interactions predicting study outcomes would be affected when controlling for perceived listening. Presumably, these interaction effects were due to the parent as having been perceived to be a better listener in the “Hurt” condition. Results of these ANCOVAs showed that when controlling for

Analytic strategy for indirect effects. To test Hypotheses 6 and 7 regarding indirect effects through autonomy need satisfaction (Hypothesis 6) and relatedness need satisfaction (Hypothesis 7; Figure 1), we submitted autonomy and relatedness simultaneously in the PROCESS macro (Hayes, 2017) with 10,000 bootstrapped samples. This approach enabled us to examine their independent effects on the dependent variables: well-being and self-disclosure intention. We did not have a registered hypothesis regarding separate indirect effects for each of the two disclosure situations, so we contrasted good with moderate quality listening. Although we did not pre-register doing this, we directly contrasted the size of indirect effects of both autonomy and relatedness need satisfaction in an exploratory manner.

Findings are summarized in Figure 3. A first model showed both autonomy and relatedness were positively associated with well-being, $\beta = .26$, $t(931) = 7.11$, $p < .001$, and $\beta = .36$, $t(931) = 9.63$, $p < .001$, respectively. The standardized indirect effect for autonomy was, $\beta = .11$, 95% CI [.06, .16], and for relatedness was, $\beta = .18$, 95% CI [.12, .25]. A pairwise comparison of the indirect effects indicated that they did not differ from one another, $\beta = -.08$, 95% CI [-.17, .01]. A direct effect was present on the Listening manipulation predicting well-being, $b = .29$, 95% CI [.19, .39].

Findings of a second model predicting self-disclosure intention similarly showed both autonomy, $\beta = .16$, $t(931) = 4.37$, $p < .001$, and relatedness, $\beta = .38$, $t(931) = 10.41$, $p < .001$, linked to self-disclosure intention. The standardized indirect effect for autonomy was, $\beta = .06$, 95% CI [.03, .11], and for relatedness was, $\beta = .19$, 95% CI [.13, .27]. In this mediation model, a pairwise comparison of the indirect effect indicated that relatedness had a stronger indirect effect than did autonomy, $\beta = -.13$, 95% CI [-.22, -.05]. A direct effect was still present for condition predicting self-disclosure intention, $b = .80$, 95% CI [.66, .94]. In sum, hypotheses 6 and 7 were both supported,

perceived listening, the Listening X Disclosure Situation interaction was no longer significant when predicting well-being ($F(1, 930) = 1.45$, $p = .212$) and future self-disclosure ($F(1, 930) = 1.81$, $p = .179$).

though there was evidence for a stronger indirect link through relatedness need satisfaction when predicting self-disclosure intention.³

Discussion

The present study underscored the importance of good parental listening to adolescents using vignettes that isolated listening from other supportive parental behaviors. These vignettes, delivered through carefully developed interactions recorded on video, depicted good and moderate listening, each in response to two disclosure situations.

As hypothesized, adolescents anticipated greater well-being—positive affect and self-esteem and less negative affect—when imagining self-disclosing to a parent who listened well. Furthermore, this effect was generalizable: adolescents anticipated they would experience well-being when parents listened to feeling rejected and having transgressed. To our knowledge, this is the first empirical test of this effect and gives evidence to support theorizing that parental listening is an important component of a parent-child relationship that enhances child well-being (Rogers, 1967).

This finding also speaks to a body of work showing that self-disclosure broadly benefits well-being when compared to self-concealment (Uysal et al., 2012). Despite this finding, it is unclear whether self-disclosure to parents is *consistently* beneficial: for example, studies with LGBT samples support a different view, that self-disclosing is especially beneficial to well-being under supportive interpersonal conditions (Legate et al., 2017; Ryan et al., 2015). This study was aligned with this latter view and suggested good listening may be a factor determining whether it is personally beneficial for adolescents (in terms of their well-being) to disclose to, or alternatively to conceal from, parents.

Adolescents also anticipated greater intention to self-disclose to a good listening parent in the future. Previous work highlights the importance of parental support for encouraging adolescents to

³ Although not pre-registered, we conducted reverse mediation paths where well-being and future self-disclosure were defined as mediators, and autonomy and relatedness were defined as outcomes. Results showed that reverse mediation was also in evidence, with indirect effects ranging from $b = .27$ - $.36$, and 95% confidence intervals at minimum $b = .20$.

share personal information (Finkenauer et al., 2002), and here we identified that such support could be conveyed specifically through listening. To the extent it facilitates future self-disclosure, parental listening may therefore have further downstream consequences because adolescents' self-disclosure increases emotional closeness between parents and adolescents and maintains a healthy family unit (Waterman, 1979), while concealment (i.e., absence of self-disclosure) impairs parents' ability to regulate the child's behavior effectively (Stattin & Kerr, 2000). Further, disclosing hidden information directly benefits the adolescent, for example, by reducing depressive symptoms and encouraging effective processing of negative emotions (Prager, 1995; Stattin & Kerr, 2000). Future research should test these potential outcomes of parental listening in actual, rather than illustrated, interactions.

For both these outcomes, analyses across two disclosure situations, the first in which an adolescent was rejected (hurt) and the second in which the adolescent transgressed, showed beneficial effects of listening in line with our pre-registered hypotheses. This finding increased our confidence that parental listening is important following different disclosure situations, even a challenging one (i.e., a past transgression, Pasupathi et al., 2009). It is worth noting that effects were generally stronger in the "hurt" condition, but this condition was also seen to manipulate listening somewhat more effectively by the adolescent participants. Therefore, the stronger effects we observed during the hurt disclosure situation may have resulted from a more effective listening induction in these conditions. Supporting this view, exploratory analyses showed the interaction was no longer significant when controlling for perceived listening.

Mediation by Psychological Need Satisfaction

Informed by self-determination theory (Ryan & Deci, 2017), we tested mediation by autonomy and relatedness need satisfactions on what we theorized to be their downstream consequences: well-being and future self-disclosure. In line with hypotheses that greater satisfaction of psychological needs would explain why parental listening might have predicted well-being and self-disclosure

intention, both need satisfactions accounted for variability shared between manipulation and outcomes. Previous views regarding how listening might impact youngsters point to psychological need satisfaction (Scholl et al., 2014), and preliminary evidence has linked listening to need satisfaction in young adult stranger-dyads (Itzhakov & Weinstein, in press). Yet to date, this has not been tested in the context of close relationships or in adolescence.

From adolescents' anticipated reactions, this study suggested that parents can help adolescents feel both freedom and acceptance of self-expression (i.e., autonomy) and a sense of closeness and connectedness (i.e., relatedness) when they provide a good listening ear. Furthermore, both relatedness and autonomy need satisfactions were equally informative in terms of why adolescents anticipated well-being, consistent with previous evidence (Kocayoruk, 2012; Tian et al., 2014; Véronneau et al., 2005). In addition, this study adds to a small body of evidence linking parents' ability to satisfy their adolescents' psychological needs to adolescents' self-disclosure intentions (e.g., Weinstein & Przybylski, 2019; Wuyts et al., 2018). However, these mediation paths should be interpreted with caution because we also found evidence of alternative causal paths (Footnote 3) when psychological need satisfactions were defined as outcome variables. Future research is therefore needed to determine the causal order between mediators and outcomes of this study.

In this study, we did not test competence need satisfaction—the experience that one is effective in activities and capable of achieving desired goals (Deci & Ryan, 2008)—as a mediator alongside autonomy and relatedness need satisfaction. However, SDT conceptualizes it as the third psychological need that drives well-being. A-priori, we did not find clear evidence that parental listening would promote competence during a personal disclosure to the same extent as relatedness and autonomy need satisfaction. Having said that, there is research showing that parental support during difficult conversations, and namely autonomy-supportive reactions during conversations about sex, can help adolescent girls feel greater competence and comfort when discussing this difficult topic with others

(Mauras et al., 2013). We encourage future research to explore the role of parental listening in adolescent competence, particularly when feeling competent concerns the youngster's ability to navigate difficult self-disclosures and conversations. This may be tested in the context of self-personal disclosure, but perhaps even more so in conversations where competence is highly relevant, such as following arguments (where adolescents aim to convince parents of their view), requests made to parents (where adolescents aim to convince parents of their position or have their own goal supported by parents), and limit-setting (where parents seek to shape adolescents' behaviors).

Future Directions

We view the current research with adolescents to be relevant for younger children as well. In childhood and very early adolescence, parental listening may place a more foundational role in shaping healthy socialization with peers (Jourard, 1971; Norrel, 1984); arguably, it may do so because parents model open conversations and encourage children's expression. Parental listening earlier in development may also set the stage for adolescents' willingness to disclose in middle- and later-adolescence. Importantly, listening may be critical for other outcomes in which parents play a key role, including exploration and learning (e.g., Tamis-LeMonda et al., 2001) and secure attachment (e.g., Greenberg et al., 1983). Although research often considers parents' roles more holistically, to the extent that listening plays an isolated role, it may be a specific strategy to best support children (e.g., in fostering self-expression, curiosity, emotion regulation).

To truly understand how and why parental listening affects children and adolescents, it is important to define listening carefully. This study manipulated attention, and positive intention, but not a third theorized listening aspect: comprehension (Itzchakov & Kluger, 2017). Listeners demonstrate their comprehension by reflecting back to the listener so that they feel understood during the conversation (Nemec et al. 2017; Van Quaquebeke & Felps, 2018). Comprehension is intriguing in the context of parent-child relationships because of its potential for facilitating self-awareness and attitude

change in speakers, who gain insight that further underpins both self-and emotion-regulation (Itzhakov et al. 2018; 2020).

Outside of the parenting context, all three aspects are likely important in psychotherapeutic practice with adolescents. In fact, similar to Rogers' work (primarily with adults; Rogers, 1967), D. W. Winnicott's approach to psychotherapy was to listen to children rather than to speak (Goldman, 1993). Today in psychotherapeutic practice with adolescents, it is recognized that listening is key (Sommers-Flanagan et al., 2011; Watson & Kalogerakos, 2010), including when treating mental illness (Berger et al., 2013; McGlasson, 2012). Despite its potential impact, the unique contribution of listening quality in psychotherapeutic practices with adolescents is not understood.

Limitations

These findings should be understood in light of several limitations of the current research. In the present study, we selected a method that offered high internal validity and experimental realism by using a carefully controlled manipulation. This was done, in part, because the relationship between parental listening and children's emotional and behavioral outcomes is likely nuanced and recursive. For example, parental listening promotes well-being in youngsters, but similarly, it may be easier to listen to youngsters who are generally happy and well-functioning. Our methodological approach allowed for stronger causal interpretations regarding listening outcomes, but it came at the cost of external validity. Future studies should study the consequences of parental listening in actual parent-adolescent relationships and in isolation from other parenting predictors, such as autonomy support and control, criticism, and warmth (Franzoi & Davis, 1985; Maccoby & Martin, 1983; Vieno et al., 2009). Furthermore, researchers may examine whether it can co-exist with and even enhance the effectiveness of rule-setting climates in parent-child relationships (Darling et al., 2006; Weinstein & Przybylski, 2018).

It is also important that research employs longitudinal designs to examine recursive associations between good listening and adolescents' outcomes (e.g., disclosure). Indeed, the present findings also suggested alternative causal chains between adolescents' well-being, self-disclosure intention, and psychological need satisfaction. Although there is extensive previous evidence that the causal direction is aligned with the direction hypothesized (Ryan & Deci, 2017), it may well be that the associations are best characterized in terms of feedback loops.

In addition, the current findings are based on adolescents' views of one mother-son interaction. We selected this interaction because it was viewed by experts and adolescent pilot participants to demonstrate the best listening in the 'good' listening conditions (across both disclosure situations), and because the 'moderate' listening conditions were viewed in validation studies as neutral, not bad (and therefore, also, neglectful, or mean). We thus viewed the interaction as a prototypical example of parental listening. However, using just one dyad limits our findings' generalizability; we cannot be sure that effects would extend to other dyads besides this one. Second, we cannot make references to father-child, or mother-daughter, interactions. Although adolescents self-disclose more to mothers and mothers are more likely to solicit disclosure (Noller, 1995; Smetana et al., 2006), parents' gender should not predict the extent to which listening is beneficial, and in fact, based on the previous theorizing, we have reason to believe that the importance of listening in parent-child relationships is largely speaking universal (La Guardia & Ryan, 2002; Rogers, 1967). Yet this assertion needs testing. Among other tests of universality, in future studies, fathers' listening should be studied alongside listening by mothers.

Finally, it is worth noting the means of perceived support (i.e., the listening manipulation check and validation scores) in the moderate listening condition were around the scale's midpoint. Expert validators (see supplemental materials) and participants perceived the level of moderate listening as neutral rather than poor. The perception that listening in the moderate listening condition was

moderate rather than poor eliminates alternative explanations for our findings. The difference between the listening conditions stems from rudeness or neglect. However, future research should examine both good and truly bad listening against a moderate comparison condition to examine both beneficial and undermining effects of listening to both ends of its continuum.

Conclusion

The following experiment was, to our knowledge, the first to test the role of perceived parental listening on adolescents' reactions. Adolescence is characterized by the simultaneous influences of separation-individuation and continued reliance on parents, and parental behaviors can help encourage intimacy and honesty. This study suggests that listening may play an important role in how parents support adolescents' need satisfaction, well-being, and future self-disclosures.

References

- Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational research methods*, 17(4), 351-371. doi:10.1177/1094428114547952
- Atzmüller, C., & Steiner, P. M. (2010). Experimental vignette studies in survey research. *Methodology: European Journal of Research Methods for the Behavioral and Social Sciences*, 6(3), 128–138. <https://doi.org/10.1027/1614-2241/a000014>
- Bavelas, J. B., Coates, L., & Johnson, T. (2002). Listener responses as a collaborative process: The role of gaze. *Journal of Communication*, 52(3), 566-580. doi:10.1111/j.1460-2466.2002.tb02562.x
- Berger, E., Hasking, P., & Martin, G. (2013). ‘Listen to them’: Adolescents’ views on helping young people who self-injure. *Journal of Adolescence*, 36(5), 935-945. doi.org/10.1016/j.adolescence.2013.07.011
- Chaparro, M. P., & Grusec, J. E. (2015). Parent and adolescent intentions to disclose and links to positive social behavior. *Journal of Family Psychology*, 29(1), 49-58. doi:10.1037/fam0000040
- Costa, S., Cuzzocrea, F., Gugliandolo, M. C., & Larcan, R. (2016). Associations between parental psychological control and autonomy support, and psychological outcomes in adolescents: The mediating role of need satisfaction and need frustration. *Child Indicators Research*, 9(4), 1059-1076. doi:10.1007/s12187-015-9353-z
- Darling, N., Cumsille, P., Caldwell, L. L., & Dowdy, B. (2006). Predictors of adolescents’ disclosure to parents and perceived parental knowledge: Between-and within-person differences. *Journal of Youth and Adolescence*, 35(4), 659-670. doi:10.1007/s10964-006-9058-1
- Darling, N., & Steinberg, L. (1993). Parenting style as context: An integrative model. *Psychological bulletin*, 113(3), 487-496. doi:10.1037/0033-2909.113.3.487

- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian psychology/Psychologie canadienne*, 49(3), 182-185.
doi:10.1037/a0012801
- Deci, E. L., & Ryan, R. M. (2014). Autonomy and need satisfaction in close relationships: Relationships motivation theory. In *Human motivation and interpersonal relationships*(pp. 53-73). Springer, Dordrecht. doi:10.1007/978-94-017-8542-6_3
- Disla, J., Main, A., Kashi, S., & Boyajian, J. (2019). The effect of mothers' emotion-related responses to adolescent disclosures and adolescent perspective taking on the timing of future disclosures. *Social Development*, 28(3), 657-673. doi:10.1111/sode.12360
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior research methods*, 41(4), 1149-1160.
doi:10.3758/BRM.41.4.1149
- Finkenauer, C., Engels, R. C., & Meeus, W. (2002). Keeping secrets from parents: Advantages and disadvantages of secrecy in adolescence. *Journal of Youth and Adolescence*, 31(2), 123-136.
- Franzoi, S. L., & Davis, M. H. (1985). Adolescent self-disclosure and loneliness: Private self-consciousness and parental influences. *Journal of Personality and Social Psychology*, 48(3), 768.
doi:10.1037/0022-3514.48.3.768
- Gagné, M. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, 15(4), 372-390.
doi:10.1080/10413200390238031
- Geerts, E., Bouhuys, A. L., & Bloem, G. M. (1997). Nonverbal support giving induces nonverbal support seeking in depressed patients. *Journal of Clinical Psychology*, 53(1), 35-39.
doi:10.1002/(sici)1097-4679(199701)53:1<35::aid-jclp5>3.0.co;2-u

- Goldman, D. (1993). *In search of the real: The origins and originality of DW Winnicott*. Jason Aronson. ISBN: 9780876680063
- Greenberg, M. T., Siegel, J. M., & Leitch, C. J. (1983). The nature and importance of attachment relationships to parents and peers during adolescence. *Journal of Youth and Adolescence*, 12(5), 373-386. doi:10.1007/BF02088721
- Hayes, A. F. (2017). Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications. ISBN: 9781462534654
- Henderson, B. B. (1984). Parents and exploration: The effect of context on individual differences in exploratory behavior. *Child Development*, 1237-1245. doi.org/10.2307/1129993
- Hoffman, J. A. (1984). Psychological separation of late adolescents from their parents. *Journal of Counseling Psychology*, 31(2), 170-178. doi:10.1037/0022-0167.31.2.170
- Itzchakov, G., DeMarree, K. G., Kluger, A. N., & Turjeman-Levi, Y. (2018). The listener sets the tone: High-quality listening increases attitude clarity and behavior-intention consequences. *Personality and Social Psychology Bulletin*, 44(5), 762-778.
- Itzchakov, G., & Kluger, A. N. (2017). Can holding a stick improve listening at work? The effect of Listening Circles on employees' emotions and cognitions. *European Journal of Work and Organizational Psychology*, 26(5), 663-676.
- Itzchakov, G., Weinstein, N., Legate, N., & Amar, M. (2020). Can high quality listening predict lower speakers' prejudiced attitudes?. *Journal of Experimental Social Psychology*, 91, 104022.
- Itzchakov, G & Weinstein, N (in press). High-Quality Listening Supports Speakers' Autonomy and Self-Esteem when Discussing Prejudice. *Human Communication Research*.
- Jourard, S. M. (1971). *The transparent self*. Van Nostrand Reinhold Company.

- Joussemet, M., Mageau, G. A., & Koestner, R. (2014). Promoting Optimal Parenting and Children's Mental Health: A Preliminary Evaluation of the How-to Parenting Program. *Journal of Child and Family Studies*, 23, 949-964. doi:10.1007/s10826-013-9751-0
- Kahn, E. (1998). Carl Rogers, more relevant today than Freud. *Psychotherapy Bulletin*, 33, 35-36.
- Katz, L. F., & Hunter, E. C. (2007). Maternal meta-emotion philosophy and adolescent depressive symptomatology. *Social Development*, 16(2), 343-360. doi:10.1111/j.1467-9507.2007.00388.x
- Kipp, L. E., & Weiss, M. R. (2015). Social predictors of psychological need satisfaction and well-being among female adolescent gymnasts: A longitudinal analysis. *Sport, Exercise, and Performance Psychology*, 4(3), 153-169. doi:10.1037/spy0000033
- Kluger, A. N. (2020 January). Listening as a Fountain of Positive Relationships (at Work): Meta-analyses. In Itzhakov, G. (Chair), *Antecedents and Consequences of Positive Relationship at the Workplace*. A symposium conducted at the 5th Israel Organizational Behavior Conference. Tel Aviv, Israel.
- Kluger, A. N., & Bouskila-Yam, O. (2018). Facilitating Listening Scale In D. L. Worthington & G. D. Bodie (Eds.), *The Sourcebook of Listening Research: Methodology and Measures* (pp. 272-280). John Wiley & Sons. doi:10.1002/9781119102991.ch25
- Kluger, A. N., Malloy, T. E., Pery, S., Itzhakov, G., Castro, D. R., Lipetz, L., ... & Borut, L. (2020). Dyadic listening in teams: social relations model. *Applied Psychology*. doi:10.1111/apps.12263
- Kocayoruk, E. (2012). The perception of parents and well-being of adolescents: Link with basic psychological need satisfaction. *Procedia-Social and Behavioral Sciences*, 46, 3624-3628. doi:10.1016/j.sbspro.2012.06.117
- La Guardia, J. G., Ryan, R. M., Couchman, C. E., & Deci, E. L. (2000). Within-person variation in security of attachment: A self-determination theory perspective on attachment, need fulfillment,

and well-being. *Journal of Personality and Social Psychology*, 79(3), 367-384.

doi:10.1037//0022-3514.79.3367

- La Guardia, J. G., & Ryan, R. M. (2002). What adolescents need: A self-determination theory perspective on development within families, school, and society. In F. Pajares, & T. Urdan (Eds.), *Academic motivation of adolescents: Vol. 2*(pp. 193-219). Greenwich, CT: Information Age.
- Legate, N., Ryan, R. M., & Rogge, R. D. (2017). Daily autonomy support and sexual identity disclosure predicts daily mental and physical health outcomes. *Personality and Social Psychology Bulletin*, 43(6), 860-873. doi:10.1177/0146167217700399
- Lietaert, S., Roorda, D., Laevers, F., Verschueren, K., & De Fraine, B. (2015). The gender gap in student engagement: The role of teachers' autonomy support, structure, and involvement. *British Journal of Educational Psychology*, 85(4), 498-518. doi:10.1111/bjep.12095
- Mageau, G. A., Sherman, A., Grusec, J. E., Koestner, R., & Bureau, J. S. (2017). Different ways of knowing a child and their relations to mother-reported autonomy support. *Social Development*, 26(3), 630-644. Doi:10.1111/sode.12212
- Mauras, C.E., Grolnick, W.S., & Friendly, R.W. (2013). Time for “The Talk “...Now What? Autonomy support and structure in mother-daughter conversations about sex. *Journal of Early Adolescence*, 33, 458-481.
- McLean, K. C., & Jennings, L. E. (2012). Teens telling tales: How maternal and peer audiences support narrative identity development. *Journal of adolescence*, 35(6), 1455-1469. doi:10.1016/j.adolescence.2011.12.005
- McGlasson, T. D. (2012). Listening clearly: alternative treatments for adolescent depression. *The Prevention Researcher*, 19(4), 18-21.

- Miller, L. C., Berg, J. H., & Archer, R. L. (1983). Openers: Individuals who elicit intimate self-disclosure. *Journal of Personality and Social Psychology*, 44(6), 1234–1244. doi:10.1037/0022-3514.44.6.1234
- Noller, P. (1995). Parent-adolescent relationships. Explaining family interactions. In Eds., M. A. Fitzpatrick & A. L. Vansgelisti. *Explaining family interactions* (pp 77-111). NY: Sage. ISN: 0803954794
- Pasupathi, M., McLean, K. C., & Weeks, T. (2009). To tell or not to tell: Disclosure and the narrative self. *Journal of Personality*, 77(1), 89-124. doi:10.1111/j.1467-6494.2008.00539.x
- Rah, Y., & Parke, R. D. (2008). Pathways between parent–child interactions and peer acceptance: The role of children’s social information processing. *Social Development*, 17(2), 341-357. doi:10.1111/j.1467-9507.2007.00428.x
- Reeve, J., & Jang, H. (2006). What teachers say and do to support students’ autonomy during a learning activity. *Journal of Educational Psychology*, 98(1), 209-218. doi:10.1037/0022-0663.98.1.209
- Rogers, C. R. (1962). The interpersonal relationship. *Harvard educational review*, 32(4), 416-429.
- Rogers, C. R. (1967). *On becoming a person: a therapist’s view of psychotherapy*. London: Constable. ISBN: 8601400108574
- Rogers, C. R. (1980). *A way of being*. Boston: Houghton Mifflin. ISBN: 0046442755306
- Rogers, F. (2006). *Many ways to say I love you: Wisdom for parents and children from Mister Rogers*. Hachette UK.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press. doi:10.1126/science.148.3671.804

- Roth, G., Ron, T., & Benita, M. (2009). Mothers' parenting practices and adolescents' learning from their mistakes in class: The mediating role of adolescent's self-disclosure. *Learning and Instruction, 19*(6), 506-512. doi:10.1016/j.learninstruc.2008.10.001
- Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. Guilford Publications. doi:10.1521/978.14625/28806
- Ryan, W. S., Legate, N., & Weinstein, N. (2015). Coming out as lesbian, gay, or bisexual: The lasting impact of initial disclosure experiences. *Self and Identity, 14*(5), 549-569. doi:10.1080/15298868.2015.1029516
- Scholl, M. B., Ray, D. C., & Brady-Amoon, P. (2014). Humanistic counseling process, outcomes, and research. *The Journal of Humanistic Counseling, 53*(3), 218-239. doi:10.1002/j.2161-1939.2014.00058.x
- Smetana, J., Crean, H. F., & Campione-Barr, N. (2005). Adolescents' and parents' changing conceptions of parental authority. *New directions for child and adolescent development, 2005*(108), 31-46. doi:10.1002/cd.126
- Smetana, J. G., Metzger, A., Gettman, D. C., & Campione-Barr, N. (2006). Disclosure and secrecy in adolescent-parent relationships. *Child Development, 77*(1), 201-217. doi:10.1111/j.1467-8624.2006.00865.x
- Soenens, B., Vansteenkiste, M., Luyckx, K., & Goossens, L. (2006). Parenting and Adolescent Problem Behavior: An Integrated Model With Adolescent Self-Disclosure and Perceived Parental Knowledge as Intervening Variables. *Developmental Psychology, 42*(2), 305-318. doi:10.1037/0012-1649.42.2.305
- Sommers-Flanagan, J., Richardson, B. G., & Sommers-Flanagan, R. (2011). A multi-theoretical, evidence-based approach for understanding and managing adolescent resistance to

psychotherapy. *Journal of Contemporary Psychotherapy*, 41(2), 69-80. DOI 10.1007/s10879-010-9164-y

Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, 71(4), 1072-1085. <http://www.jstor.com/stable/1132345>

Steiner, P. M., Atzmüller, C., & Su, D. (2016). Designing valid and reliable vignette experiments for survey research: A case study on the fair gender income gap. *Journal of Methods and Measurement in the Social Sciences*, 7 (2), 52–94. <https://doi.org/10.2458/v7i2.20321>

Tamis-LeMonda, C. S., Bornstein, M. H., & Baumwell, L. (2001). Maternal responsiveness and children's achievement of language milestones. *Child Development*, 72(3), 748-767. doi:217.169.30.73

Tian, L., Chen, H., & Huebner, E. S. (2014). The longitudinal relationships between basic psychological needs satisfaction at school and school-related subjective well-being in adolescents. *Social Indicators Research*, 119(1), 353-372. doi:10.1007/s11205-013-0495-4

Tokić, A., & Pećnik, N. (2011). Parental behaviors related to adolescents' self-disclosure: Adolescents' views. *Journal of Social and Personal Relationships*, 28(2), 201-222. doi:10.1177/0265407510382320

Uysal, A., Lin, H. L., Knee, C. R., & Bush, A. L. (2012). The association between self-concealment from one's partner and relationship well-being. *Personality and Social Psychology Bulletin*, 38(1), 39-51. 10.1177/0146167211429331

Vansteenkiste, M., & Sheldon, K. M. (2006). There's nothing more practical than a good theory: Integrating motivational interviewing and self-determination theory. *British Journal of Clinical Psychology*, 45(1), 63-82. doi:10.1348/014466505X34192

- Véronneau, M. H., Koestner, R. F., & Abela, J. R. (2005). Intrinsic need satisfaction and well-being in children and adolescents: An application of the self-determination theory. *Journal of Social and Clinical Psychology, 24*(2), 280-292. doi:10.1521/jscp.24.2.280.62277
- Vieno, A., Nation, M., Pastore, M., & Santinello, M. (2009). Parenting and antisocial behavior: A model of the relationship between adolescent self-disclosure, parental closeness, parental control, and adolescent antisocial behavior. *Developmental Psychology, 45*(6), 1509-1519. doi:10.1037/a0016929
- Waterman, J. (1979). Family patterns of self-disclosure. In G. J. Chelune (Ed.), *Self-disclosure: Origins, patterns, and implications of openness in interpersonal relationships* (pp. 225-242). San Francisco: Jossey-Bass. ISBN-10: 087589433X
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology, 54*(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063
- Watson, J. C., & Kalogerakos, F. (2010). The therapeutic alliance in humanistic psychotherapy. *The therapeutic alliance: An evidence-based guide to practice*. ISBN: 1606238876
- Weinstein, N., & Przybylski, A. K. (2019). The impacts of motivational framing of technology restrictions on adolescent concealment: Evidence from a preregistered experimental study. *Computers in Human Behavior, 90*, 170-180. doi:10.1016/j.chb.2018.08.053
- Weinstein, N., & Ryan, R. M. (2010). When helping helps: autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology, 98*(2), 222-244. doi:10.1037/a0016984
- Weinstein, N., & Stone, D. N. (2018). Need depriving effects of financial insecurity: Implications for well-being and financial behaviors. *Journal of Experimental Psychology: General, 147*(10), 1503. doi:10.1037/xge0000436

- Worthington, D. L., & Bodie, G. D. (2018). Defining listening: A historical, theoretical and pragmatic assessment. *The sourcebook of listening research: Methodology and measures*, 3-17.
doi:10.1002/9781119102991.ch1
- Wuyts, D., Soenens, B., Vansteenkiste, M., & Van Petegem, S. (2018). The role of observed autonomy support, reciprocity, and need satisfaction in adolescent disclosure about friends. *Journal of Adolescence*, 65, 141-154. doi:10.1016/j.adolescence.2018.03.012

Table 1*Descriptives and Correlations for Study Variables.*

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	14.47	1.11												
2. Gender	--	--	-.04											
3. Listening manipulation	--	--												
4. Disclosure Situation Manipulation	--	--	.04	.01										
5. Manipulation check	5.21	1.50	.00	.01	.01									
6. Behavior check	4.21	2.29	.02	-.02	.57**	.05								
7. Autonomy need	5.34	1.24	-.02	-.01	-.05	.40**	.02							
8. Relatedness need	5.15	1.22	.05	.03	.20**	-.07*	.45**	-.09**						
9. Self-esteem	4.92	1.15	-.01	-.01	.26**	-.05	.52**	-.06	.71**					
10. Positive affect	4.13	1.27	.01	-.05	.25**	-.12**	.44**	-.19**	.62**	.64**				
11. Negative affect	3.64	1.26	-.02	-.03	.27**	-.09**	.48**	.01	.37**	.47**	.51**			
12. Well-being	4.47	0.99	-.03	.05	-.18**	.11**	-.26**	.21**	-.34**	-.30**	-.54**	-.37**		
13. Self-disclosure	4.47	0.99	.01	-.05	.29**	-.14**	.49**	-.16**	.54**	.58**	.84**	.78**	-.79**	
	4.69	1.37	-.01	-.02	.42**	.04	.71**	.05	.49**	.57**	.52**	.57**	-.28**	.56**

Notes: 2 gender was coded as 1 = men; 2 = other; Listening manipulation is coded 1 = Moderate, 2 = Good; Disclosure Situation

manipulation is coded 1 = Hurt, 2 = Transgression. Manipulation check has higher scores = higher perceived quality in listening.

Variable 6 is a manipulation check for self-disclosure situation measuring 'bad behavior'. Well-Being is comprised of the average of

Variables 9-11 above it. Self-disclosure = self-disclosure intention.

* $p < .05$, ** $p < .01$

PARENTAL LISTENING TO ADOLESCENTS

Table 2

A: Means and Standard Deviations of all Study Outcomes Split by Condition, and the Main Effects of Both Manipulations (Listening and Disclosure Situation). B: Interaction and Simple Effects Predicting all Study Outcomes.

A	Moderate; Transgress	Moderate; Hurt	Good; Transgress	Good; Hurt	Listening Manipulation (Main)	Disclose Manipulation (Main)
	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>M (SD)</i>	<i>F</i> <i>p</i> <i>d</i>	<i>F</i> <i>p</i> <i>d</i>
Manipulation Checks						
Perceived Listening	4.53(1.44)	4.15(1.53)	6.01(0.95)	6.13(0.84)	465.45 <.001 1.36 2.52 .113 0.10	
Perceived Transgression	5.07(1.87)	3.60(2.11)	5.17(2.13)	3.00(2.22)	3.39 .066 0.11 177.22 <.001 0.84	
Primary Outcomes						
Autonomy Need	5.08(1.23)	5.09(1.34)	5.41(1.19)	5.76(1.04)	39.31 <.001 0.40 5.15 .024 0.14	
Relatedness Need	4.84(1.29)	4.84(1.38)	5.34(1.00)	5.58(0.98)	65.78 <.001 0.51 2.39 .123 0.10	
Well-being	4.12(0.97)	4.24(1.06)	4.54(0.82)	4.97(0.87)	88.53 <.001 0.60 20.35 <.001 0.29	
Self-Disclosure Intention	4.28(1.42)	3.95(1.47)	5.18(1.01)	5.34(0.96)	201.61 <.001 0.90 1.17 .279 0.07	
B						
	Listening X Disclosure Situation		Simple Effects within Transgression Disclosure		Simple Effects within Disclose Disclosure	
	<i>F</i>	<i>p</i>	<i>pn</i> ²	<i>F</i> <i>p</i> <i>d</i>	<i>F</i> <i>p</i> <i>d</i>	<i>d</i>
Manipulation Checks						
Perceived Listening	9.59	.002	0.01	173.30 <.001 1.18 299.81 <.001 1.55		
Perceived Transgression	6.54	.011	0.01	0.28 .598 0.05 8.95 .003 0.27		
Primary Outcomes						
Autonomy Need	4.58	.033	0.01	8.46 .004 0.26 35.67 <.001 0.53		
Relatedness Need	2.52	.113	0.00	-- -- -- --		
Well-being	5.98	.015	0.01	26.50 <.001 0.46 64.70 <.001 0.72		
Self-Disclosure Intention	9.02	.003	0.01	63.37 <.001 0.72 146.34 <.001 1.09		

Figure 1

Pre-Registered Hypothesized Effects

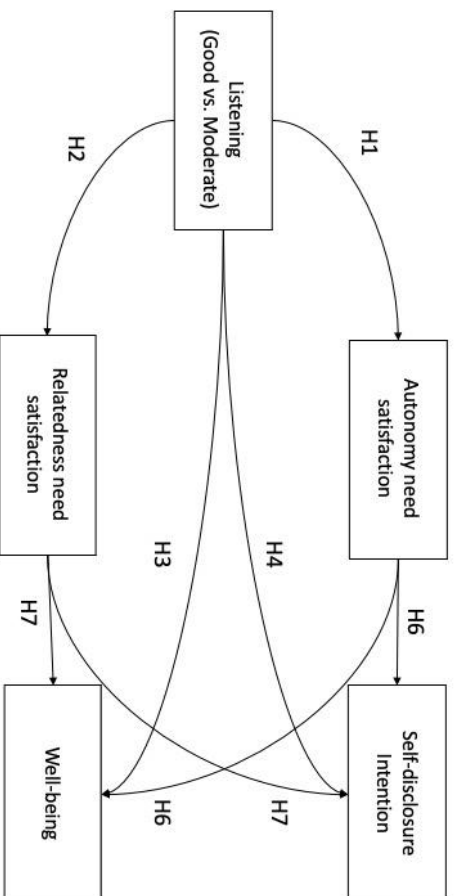


Figure 2

Correlations between the Manipulation Check (Perceived Listening Quality) and Main Study Outcomes of (A) Autonomy Need Satisfaction, (B) Relatedness Need Satisfaction, (C) Well-Being, and (D) Self-Disclosure Intention.

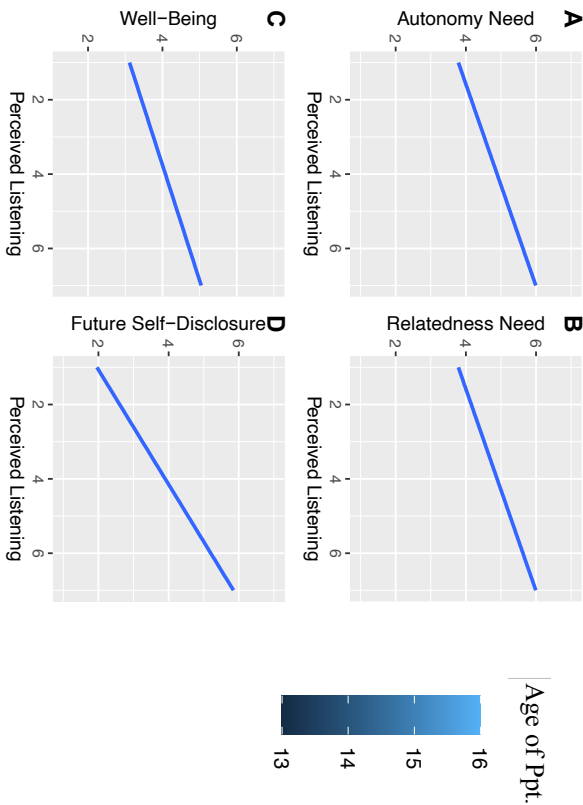


Figure 3

Results of Mediation Tests Predicting Self-Disclosure Intention and Well-Being.

