I'm lonely, can't you tell? Convergent validity of self- and informant ratings of loneliness ☆

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ABSTRACT

To what degree do self-ratings of loneliness converge with informant ratings? In this study, we obtained self-ratings of loneliness from 463 young adults and informant ratings from their parents, friends, and romantic partners. Convergence among these ratings was estimated using structural equation models for multitrait-multimethod data and compared to self-informant convergence of life-satisfaction ratings. Self- and informant ratings were moderately correlated and comparable to self-informant correlations obtained for life satisfaction. Romantic partners were more accurate in their judgments than both friends and parents, who did not differ significantly from each other in terms of accuracy. Together, these findings indicate that informant ratings of loneliness can be used as valid indicators of loneliness in applied contexts and in future research.

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1. Introduction

In the movie *Lost in Translation*, Bob (Bill Murray) and Charlotte (Scarlett Johansson) are two Americans stuck at a hotel in Tokyo, Japan, who meet at the hotel bar in the middle of the night trying to cure their insomnia. Although the two characters have little in common, they share one important feature: They are both lonely. This common fate allows them to connect, become friends, and make the best of their time in the strange city.

This story has two important lessons for the purpose of this paper: First, feeling lonely is not the same as being alone–one can feel lonely in the busiest places such as the biggest city of Japan. Second, even though the main characters in the movie are never outspoken about their feelings, we as viewers know exactly that they both feel immensely lonely. But can we also tell the difference in real life? How well can we judge how lonely our friends, partners, children, or other close ones feel? In this paper, we tried to answer this question by examining to what extent self-ratings of

loneliness obtained from recent high-school graduates (henceforth referred to as *targets*) converge with loneliness ratings obtained from their parents, friends, and romantic partners (collectively referred to as *informants*).

Loneliness is commonly defined as the perceived discrepancy between one's actual and one's desired social relationships (Peplau & Perlman, 1982). Although loneliness is more frequent among people with little social contact, people can feel lonely even when they are surrounded by others (like Bob and Charlotte) and they can feel just fine when they are alone. Loneliness is therefore also referred to as perceived social isolation to distinguish it from objective social isolation. From an evolutionary perspective, loneliness is adaptive because it signals a disturbance in one's social connections and it motivates people to reconnect with others (Cacioppo, Cacioppo, et al., 2015; Cacioppo & Patrick, 2008). However, loneliness can also have undesired and non-adaptive consequences that lead people to behave in ways that do not alleviate but rather deepen their feelings of loneliness. People high in loneliness have increased levels of distrust towards others (Rotenberg, 1994), are more likely to perceive social stimuli and social interactions as threatening (Cacioppo et al., 2006; Tsai & Reis, 2009; van Roekel et al., 2013), and react to this permanent perceived social threat with defiant behavior towards others and by isolating themselves even further (Nurmi & Salmela-Aro, 1997; Nurmi, Toivonen, Salmela-Aro, & Eronen, 1996; Twenge, Baumeister, DeWall,

Ciarocco, & Bartels, 2007; Twenge, Baumeister, Tice, & Stucke, 2001). These effects hold even after controlling for correlates of loneliness such as depressive symptoms (Cacioppo & Hawkley, 2009). As a consequence, even well-meaning friends and relatives may withdraw themselves from the lonely person and even become lonelier themselves (Cacioppo, Fowler, & Christakis, 2009). Together, these cognitive and behavioral consequences of loneliness may lead to a chronification of loneliness in a vicious cycle (Cacioppo & Hawkley, 2009). Chronic loneliness, in turn, has negative effects on mental and physical health (for a recent review, see Hawkley & Capitanio, 2015) and longevity (Holt-Lunstad, Smith, & Layton, 2010). To prevent this vicious cycle, it is necessary to recognize and alleviate loneliness before it becomes chronic (for a meta-analytic comparison of different loneliness interventions, see Masi, Chen, Hawkley, & Cacioppo, 2011). Close friends and relatives may play a crucial role in preventing loneliness, but only if they are able to spot loneliness in others in their social network.

1.1. Informant ratings of psychological constructs

But is it even possible to accurately judge another person's loneliness? Most psychological constructs manifest themselves in observable cues which can be used by others to evaluate these constructs with a certain degree of validity (Brunswik, 1956; Funder, 1995; Neyer, 2006). According to the realistic accuracy model (Funder, 1995, 1999), informant reports can be accurate if four conditions are met. First, the targets have to show observable cues that are relevant to the trait. Second, these observable cues must be available to the informant, that is, the informant must be present when the cues are shown. Third, the informant must detect the cues. Finally, the cues must be utilized by the informant when making the judgment. This model has mostly been tested in the context of personality judgments (Funder, 2012). There is now a substantial body of research suggesting that personality traits such as extraversion or agreeableness can be accurately judged by informants (for meta-analyses and reviews, see Connelly & Ones, 2010; Connolly, Kavanagh, & Viswesvaran, 2007; Vazire, 2010; Vazire & Carlson, 2011). This is the case even if the informant has only just met the target (e.g., Hirschmüller, Egloff, Nestler, & Back, 2013; Kenny, Horner, Kashy, & Chu, 1992), and even if personality judgments are based entirely on photographs (e.g., Naumann, Vazire, Rentfrow, & Gosling, 2009) or Facebook profiles (e.g., Back et al., 2010).

Extraversion and agreeableness, however, are highly visible traits that manifest themselves in multiple observable behaviors. So do these findings also apply to loneliness? After all, loneliness is by definition a subjective, internal state of mind. According to Vazire's (2010) model of self-other knowledge asymmetry (SOKA), traits can be distinguished in terms of observability. External traits such as extraversion or agreeableness are primarily characterized by specific behavioral patterns and are therefore high in observability. Internal traits, in contrast, are primarily characterized by thoughts and feelings and are therefore low in observability. Examples for internal traits are personality traits such as emotional stability and openness as well as other characteristics such as subjective well-being and loneliness. Convergence between self- and informant ratings is generally lower for internal traits than for external traits. However, the degree of observability of a trait may be particularly relevant for raters who know the target very little or not at all (e.g., in zero-acquaintance scenarios) (Vazire, 2010). Raters who know the target well (e.g., friends, parents, or partners), in contrast, may have access to information about the target's internal state and therefore provide more accurate judgments of internal traits than raters who do not know the rater well. For subjective well-being, for instance, the average correlation

between self- and informant ratings is $r = .42$ (see meta-analysis by Schneider & Schimmack, 2009).

What kind of information do people use when rating internal traits? First, it should be noted that internal traits are not completely unobservable, but they manifest themselves in fewer observable cues than external traits. One obvious observable cue for subjective well-being, for instance, is smiling. Frequency and quality of smiling (e.g., fake vs. Duchenne smile) are valid indicators of positive affect that have been used to predict long-term outcomes such as longevity (Abel & Kruger, 2010; Harker & Keltner, 2001).

Displayed emotions may also serve as indicators of loneliness, for example, if someone looks sad around other people. Another behavioral cue for loneliness may be its direct behavioral consequences such as withdrawal or hostile behaviors in social interactions. However, there are obviously many other causes for sadness and antisocial behaviors besides loneliness, for instance, mental-health syndromes such as depression and anxiety or personality traits such as neuroticism or low agreeableness. Hence, these behavioral cues are imperfect indicators of loneliness. Judgments of internal traits can also be based on circumstantial cues (e.g., recognizing that someone has little social contact) and perspective taking (e.g., realizing that little social contact can result in feelings of loneliness). In one recent study, participants played an online game in which they navigated an avatar through a virtual social environment and rated the avatar's level of loneliness several times (Luhmann, Schönbrodt, Hawkley, & Cacioppo, 2015). These levels of ascribed loneliness were significantly higher after the avatar was separated from his or her partner than before, indicating that people simulate how they would feel in similar situations to evaluate someone else's level of loneliness. Finally, targets may disclose their internal traits to the raters, who then likely use this information when making their loneliness judgments (cf. Kenrick & Funder, 1988, for a discussion of the relevance of non-verbal vs. verbal information for informant ratings). In sum, even though loneliness is an internal trait, informants have potential access to multiple sources of information that they may use to evaluate another person's level of loneliness.

1.2. Informant ratings of loneliness

Empirical studies that collected informant ratings of loneliness are scarce. One exception is research on children, particularly research on children with mental disabilities such as autism. In this population, informant ratings (usually parent and teacher ratings) are used regularly to assess related constructs such as social exclusion (e.g., Jones & Frederickson, 2010) or social skills (e.g., Kalyva, 2010). Overall, these studies typically find that self- and informant reports converge substantially and that informant reports predict behavioral outcomes over and above self-reports, suggesting that parents and teachers can provide valid information about these different constructs. Discrepancies between self-ratings, parent ratings, and teacher ratings are interpreted not as a sign of low validity, but attributed to the different sources of information available to each rater. Among adults, studies on close social relationships routinely collect data from multiple persons or at least dyads. However, these studies typically focus on the quality of a specific dyadic relationship as evaluated by both members of the dyad (e.g., spouses, Spanier, 1976; or college roommates, Wiltz, 2003) rather than on the general degree of social connectedness of one person. Relationship quality is an important predictor of but conceptually distinct from loneliness (Hawkley et al., 2008).

Another relevant line of research focuses on how lonely people are perceived by others. In one study, female observers evaluated previously unacquainted male targets more negatively if they were lonely than if they were not lonely, but this effect was not