



# Peer pressure: Conformity outweighs reciprocity in social anxiety

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## Abstract

Social anxiety (SA) is characterized by a persistent fear of negative evaluation and marked difficulties in forming social relationships. Concerned with falling short of standards, the socially anxious make important efforts to obtain approval within their group. In the current research, we extended previous findings on excessive conformity in social anxiety, by quantifying the indirect effect of social anxiety-related conformity on unrelated third parties. Two hundred and eleven participants were assigned to one of 6 subgroups based on SA cutoffs and experimental condition. Participants first interacted in a Survival task together with 5 other participants (group of reference), and then completed a monetary Prisoner's Dilemma session against an unrelated and cooperative Person B. Prior to being asked to split the allocated \$10, participants were presented with their reference group's proposed split of the money and also with Person B's proposed amount to each member of the group. Depending on experimental condition, group members were made to appear either as fair or highly unfair, while Person B was always fair. Participants were thus given two alternatives: reciprocate fairness or conform to unfairness. Our results show that high SA individuals tend to align to the group's unfair behavior, even though conformity, in this case, is to mistreat an otherwise well-intentioned stranger. Intriguingly, while the general population follows the norms of reciprocity, for the high SA participants, conformity to the group behavior outweighs prosocial reciprocity. Taken together, our findings show that individuals high in SA are more compliant to the group's demands.

**Keywords** Social anxiety · Prisoner's dilemma · Reciprocity · Unfairness

## Introduction

Humans have an inherent need to belong, and benefit from being surrounded by a rich network of supportive relationships (Wilson et al., 2020). However, the sense of belonging can be easily disrupted. Social disapproval, negative evaluation, and rejection have a profound impact on interpersonal dynamics, and can result in harmful long-term effects (De Berardis et al., 2018; Orsolini et al., 2020). While social disapproval is, generally speaking, an unpleasant experience, one group of people are particularly vulnerable to such negative evaluations.

Social anxiety disorder is one of the most common mental health conditions, studies estimating that more than 10% of the world population have met the criteria for social anxiety disorder at some point in life (Kessler et al., 2005). Arguably, the most defining feature of social anxiety disorder is the persistent fear of negative evaluation. Driven by concerns with falling short of standards (Rapee & Heimberg, 1997), the socially anxious are excessively preoccupied with seeking approval, on one hand, and avoiding disapproval, on the other hand (Leary et al., 1988). It is thus not surprising that disapproval and social rejection are critical maintenance factors in social anxiety (Fung & Alden, 2017), and can be experienced in a similar manner to physical pain (Eisenberger et al., 2003). In turn, approval-seeking behaviors have been consistently linked to conformity and norm-compliance (Dodge & Muench, 1969). Conformity is defined as the act of changing one's responses in order to align with the responses of others (Cialdini & Goldstein, 2004). In a broader sense, the behavior of others is informative as per what is considered acceptable and endorsed in a group, and what is

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unacceptable and disapproved. By aligning their thinking and behavior to those of the majority, individuals not only get an accurate grasp of the expected behavior, but also benefit from the approval that comes with conformity. As such, humans developed an exceptional ability to attend to each other's behaviors in order to understand what others would do under similar circumstances (Belot et al., 2013). Conformity, therefore, can be understood as an alternative way of understanding the environmental demands whenever one cannot learn from first-hand observation (Ma & Ganea, 2010), but also as a strategy to supply an universal need for acceptance.

### Conformity and Social Anxiety

Conformity has thus been theorized to help maintain a favorable self-image (Cialdini & Goldstein, 2004). Considering that, for the socially anxious, approval is a goal in itself (Gilbert, 2016), it seems natural to assume that conformity may be associated with social anxiety. Indeed, several studies seem to corroborate this observation. In fact, the extent to which socially anxious adults are willing to conform to others' behavior was characterized by some researchers as "aberrant" (Feng et al., 2018). For instance, in order to avoid confrontation and negative evaluation, socially anxious adolescents were found to exhibit higher levels of memory susceptibility (i.e., a higher belief in others' memory than in their own memory) (Wright et al., 2010). Similarly, by using a modified Asch task, Zhang et al. (2016) found that adolescents high in social anxiety were more likely to conform to the judgements of others. Furthermore, when presented with a set of facial stimuli and instructed to indicate the corresponding level of attractiveness, anxious individuals not only gave higher initial ratings, but also inflated their ratings to match the ratings given by other participants (Feng et al., 2018). The study concluded that individuals with social anxiety are more likely to conform to others' behavior or judgements, especially when those behaviors or judgements are positively-valenced and can increase one's chance of being accepted. Interestingly, one study found that socially anxious women, as opposed to men, were more likely to use alcohol in order to conform, if the context requires so (Buckner & Shah, 2015).

Drawing on previous research, we sought to advance the above-mentioned findings by introducing a third party (Person B) in the dynamics between the socially anxious and their group of reference (or their peers). Here, we investigate whether the observed behavior of the group toward Person B (manipulated to appear as either highly unfair or benevolent) influences how the socially anxious will treat Person B when given the chance. We thus observe how the socially anxious treat an always benevolent Person B across three instances: (1) when their peers are also benevolent and fair

(2) when their peers are highly unfair and (3) in a control condition with no prior exposure to peers' behavior. While the first instance sought to replicate the so-called "positively-valenced" conformity, the second instance sought to investigate whether the socially anxious would mistreat unrelated others in order to conform with their peers and gain social acceptance within the group. To this end, we used a modified version of the Prisoner's Dilemma (PD; Milgrom & Axelrod, 1984), a well-known socio-economic game based on the exchange of tokens (i.e., money, points) between two players.

### The Prisoner's Dilemma (PD)

In recent years, researchers started to investigate interpersonal dynamics in social anxiety in more controlled environments by means of socio-economic games such as the Prisoner's Dilemma (Rodebaugh et al., 2011). The traditional variant of the PD presents the players with two options: cooperate (C), thus acting in the mutual best interest of both players, or defect (D), thus acting according to one's self-interest at the expense of the other player. In the PD, the configuration of outcomes depends on the participants' decisions. This means that mutual cooperation is mutually beneficial, while mutual defection is mutually disadvantageous. However, maximal utility or the maximum amount is obtained when one participant decides to defect while the other decides to cooperate. In this latter instance, the defector gets all the money while the cooperator loses everything. In recent years, the monetary PD has been the preferred approach to investigating interpersonal dynamics and correlates of social behavior in social anxiety. Moreover, PD yielded important insights into interpersonal constructs that are otherwise difficult to assess via self-reports, such as cooperative behavior, interpersonal constraint, or friendliness (Rodebaugh et al., 2011).

In the current investigation, we used a modified, multi-shot PD as opposed to the traditional PD which involves a single interaction between players. As previously noted by Rodebaugh et al. (2011), interpersonal behavior is best observed over repeated interactions. By using a multi-shot PD, participants were given the context to develop a strategy of action. In this manner, we sought to obtain more precise estimates of real-life behavior and directly observe the interpersonal strategies employed by participants. Similar to Rodebaugh et al. (2011), we used a flexible variant of the PD, that is, instead of being presented with the dichotomous option of cooperating versus defecting, participants were given the freedom to send the other player an amount of their choice. In this manner, we sought to address the lack of external validity imputed to one-shot decision-making tasks (Binmore, 2007; Samuelson, 2005).

## Study Overview

The present research focuses on conformity-driven behavior in social anxiety - especially on how the socially anxious would behave toward an unrelated and benevolent Person B when presented with their peers' unfair behavior toward the same Person B. In the current study, participants were first presented with their peers' behavior (which was either cooperative or highly unfair) and asked to send monetary offers to an always fair Person B. For this aim, participants first interacted in a Survival task in order to build group cohesiveness (Romano & Balliet, 2017), and then proceeded with an adapted Prisoner's Dilemma task. The experimental setup was designed in a manner that the unrelated other (Person B) would behave cooperatively, allocating high amounts of money while the group members could behave either cooperative or unfair. We thus investigated how the anxious decide to act toward person B, given the above-mentioned alternatives. Will they reciprocate the fairness of Person B against the group norm or will they choose to conform to their peers and mistreat Person B, thus following group norms? In addition, we also sought to contrast participants' behavior in the Cooperative condition (i.e., fair peers) against participants' behavior in the Control Condition (i.e., no peers at all) to examine whether conformity-driven cooperation is more pronounced than natural occurring cooperation.

## Method

### Participants and Design

The sample size was informed by an a priori analysis of power which determined that the minimum number of participants required to achieve a statistical power of .90 and detect a medium-sized effect ( $\eta^2 = 0.06$ ) was  $N = 206$ . Due to the coronavirus outbreak, participants (psychology and law students) were recruited through online channels such as university mailing lists and online advertisements. Underlying neurological/psychiatric conditions and psychiatric medication were pre-screened and treated as exclusion criteria. An initial sample of 345 volunteers responded to our invitation and completed screening tests such as the Liebowitz Social Anxiety Scale-Self-Report for social anxiety (LSAS-SR; Baker et al., 2002) and the Beck Depression Inventory-II for depression (BDI-II; Beck et al., 1996). Based on LSAS scores, participants were divided into High Social Anxiety (High SA) or Low Social Anxiety (Low SA). Cut-offs were set in accordance with previous validation studies (Rytwin-ski et al., 2009), so that participants with a total of 60 points

or above were categorized as High SA, whereas those with less than 30 points on the LSAS were categorized as Low SA. For higher sensitivity, we decided to remove participants with scores between 30 and 59 points on the LSAS scale. Altogether, 224 students were eligible to take part in the study, from which 13 participants withdrew or failed to register for the online tasks. The final sample consisted of 211 participants ( $N = 211$ ; 56.87% female) ranging in age from 19 to 36 ( $M_{age} = 23.49$ ,  $SD_{age} = 4.61$ ). All participants provided informed consent and were debriefed via email. At the end of the experimental session, an algorithm selected 20% of all participants to receive the amount earned in the game.

## Self-Report Measures

### Social Anxiety (SA)

Levels of social anxiety (SA) were assessed by means of the Liebowitz Social Anxiety Scale—Self-Report (LSAS-SR; Oakman et al., 2003). The 24 items of the LSAS-SR distinguish between Social Fears and Behavioral Avoidance and provide an overall index of SA. The cutoff value for SA to be “very probable” is set to greater or equal than 60. In this sense, in the High SA subgroups, we included only participants with scores that were  $\geq$  than 60. Similar to other studies (Fresco et al., 2001;  $\alpha = 0.95$ ), the LSAS-SR proved excellent psychometric qualities,  $\alpha = 0.97$ .

## Measures Embedded in the PD

### Fairness

After completing the PD together with Person B, participants were asked to rate on two Visual Analogue Scales (VAS) the level of fairness of Person B's proposed allocation, and then the level of fairness of their own proposed allocation (0 = “not fair at all” and 100 = “very fair”). This measure was employed to check whether participants perceived the Person's B splits as fair and to assess any disparities between actual behavior (proposed splits) and perceived behavior (fairness ratings).

### Guilt

After finishing the PD, participants completed a short form designed to assess their overall emotional state. Participants were presented with a 6-point Likert scale (0 = “not at all”; 5 = “extremely”) and asked to indicate the degree to which 6 emotions (guilt, fear, sadness, shame, happiness and anger) correspond to their current emotional state. From these

emotions, we only analysed feelings of guilt, while the other 5 emotions were included to conceal our actual purpose.

## Experimental Tasks

### Survival Task

In order to form cohesiveness between participants and the other 5 group members, participants took part in a Survival task. Survival tasks are based on the assumption that groups can achieve higher cohesion if performance is operationalized as behavior (Beal et al., 2003). Here, we adapted the Survival task described by Romano and Balliet (2017). In this survival task, participants were presented with the following scenario: their spaceship had crashed and they had to reach a rendezvous point located 200 miles away. As they could not bring all their equipment to the rendezvous point, they were instructed to elaborate a comprehensive list of 15 items essential to their survival. All the group members had 5 min to come with a list which will be rated by a survival experts panel. The group members were told that their individual ratings will be combined into a final score. Their final score will be compared against other groups and the group that matched the panel's ranking most accurately will receive a financial reward.

### The Prisoner's Dilemma

The Prisoner's dilemma (PD) is a socio-economic game involving the exchange of money or other tokens between two partners, providing an experimental setup with far-reaching applications in matters of cooperation and interpersonal behavior. In the traditional PD, participants and their partners are each endowed with a fixed amount of money, and each player has to make a decision on whether to cooperate with or defect against their partner. Cooperation is defined as acting in the best interest of both players, whereas defection is defined as pursuing one's own interest. However, in light of the criticism received by the dichotomous "cooperate or defect" PD, we used a flexible variant (Rodebaugh et al., 2011), that is, participants and their partners were each endowed with a fixed amount of money (10 \$), and each had to make a decision on how much money to share with their partners. There were no restrictions or recommendations on how much money to share with the other player, they could keep or give away all their money. However, as with the traditional PD, the amount given to a partner would double (i.e., if participants give away 10 \$, their partners would receive 20 \$), and vice-versa. As such, the best payoff for a player would be to keep their 10 \$ and the other player to give away their 10 \$. In this way, the defector would end up with 30\$ and the cooperator with 0\$. Similarly, if both

players give away all their money, each ends up with 20\$. In contrast, if they decide to keep all their money, they end up with the initial amount of 10\$. Thus, the configuration of outcomes is designed to create a tension between selfishness and financial maximization on one side, and reciprocal cooperation, on the other side. All participants played a set of 5 PD rounds with Partner B. Participants were told that Person B had no information about their counterplayer. However, participants were presented with inside information about Person B's behavior on previous trials in the form of an overall amount they gave to the other 5 players, as well as information about the average amount that each of the other 5 players gave to Person B. Participants were reassured that their identity will be concealed and that Person B will only be presented with their final amount at the end of the experiment.

### General Procedure

All volunteers completed an online set of demographic and clinical questionnaires. Only participants with scores that were either (1) greater than 60 on the LSAS-SR or (2) lower than 30 on the LSAS-SR were contacted to take part in a financial game. Participants were then asked to select a time slot to complete the online task and instructed that once started, the online session could not be interrupted or resumed. Participants were advised to register to the online platform within 20 min around their scheduled time (e.g., if the participants were scheduled at 3 p.m., the login page was available from 2:50 to 3:10 pm). Participants could not log in outside of their scheduled time slot. Time slots were employed only to give legitimacy to the interaction between participants, although in reality there were no other participants involved.

Based on clinical cutoffs and experimental condition, participants were assigned as follows: 36 High SA individuals and 35 Low SA individuals in the Cooperative condition ( $n=71$ ), 36 High SA individuals and 35 Low SA individuals in the Non-Cooperative condition ( $n=71$ ); 33 High SA individuals and 36 Low SA individuals in the Control condition ( $n=69$ ), thus resulting in 6 subgroups. Our results show no significant gender [ $\chi^2(2, N=211)=4.29, p=.11$ ] or age differences [ $F(2, 208)=1.12, p=.32$ ] between the three experimental conditions.

The online session was adapted from Romano and Balliet (2017) and was divided into two sequential tasks, namely (1) the Survival task and (2) the Prisoner's Dilemma. Participants in the Cooperative and Non-Cooperative conditions completed both experimental tasks (i.e., a Survival task followed by a Prisoner's Dilemma), whereas participants in the Control condition only interacted in one task (i.e., PD). In the first task (i.e., Survival Task), participants were asked to interact with 5 other participants, which sought to form

cohesiveness within group members. In the second task, participants were required to play a PD with an outsider (Person B), who did not participate in the survival task. Importantly, participants in the Cooperative and Non-Cooperative conditions were shown a table which summarized the average amount that each of the 5 group members endowed person B, and vice-versa, the average amount transmitted by person B to each of the group members. Invariably, person B was always depicted as cooperative, offering between 90% and 100% of the amount. The group members were similar in their behavior, that is, members from the Non-Cooperative group were highly selfish, offering from 0 to 20% of the amount, whereas members from the Cooperative group were highly altruistic and cooperative, offering from 90% to 100% of the amount. Participants in the Control condition did not undergo the Survival task and were only presented with a table containing the average amount that person B transmitted to other players in previous interactions. Similarly, the behavior of person B was highly cooperative (offering from 90% to 100% of the amount). At the end of the experimental session, an algorithm selected 20% of all participants to receive the amount earned in the game. All participants were debriefed via email.

## Results

### Main Analyses

#### Money Allocation

Money allocations in the PD task were significantly influenced by experimental condition  $F(2, 205) = 22.83, p < .001$ , partial  $\eta^2 = .16$ , clinical status  $F(1, 205) = 7.80, p < .05$ , partial  $\eta^2 = .02$ , as well as the interaction between the two  $F(2, 205) = 6.00, p < .05$ , partial  $\eta^2 = .04$ . Post-hoc comparisons showed that High SA individuals allocated significantly less money ( $M = 46.80, SD = 35.21$ ) than their Low SA counterparts ( $M = 72.44, SD = 29.72$ ) in the Non-cooperative condition ( $p = 0.001$ ). Overall, High SA participants assigned in the Non-cooperative condition allocated significantly less money than all other participants, all  $ps < .05$ . Further, we found no significant differences between High and Low SA participants in the Cooperative ( $p = .95$ ) or Control conditions ( $p = .57$ ).

#### Perceived Fairness of Person's B Allocation

As expected, all participants gave high ratings of fairness when presented with the average amount that Person B decided to allocate to their previous partners. A two-way

ANOVA showed that fairness ratings did not vary as a function of experimental condition or clinical status (all  $ps > .19$ ), that is, all participants rated Person B's allocation of the money as fair.

#### Perceived Fairness of Own Offers

Judgments of fairness toward own offers were, however, influenced by condition,  $F(2, 205) = 5.49, p < .01$ , partial  $\eta^2 = .05$ , such that participants with non-cooperative peers rated their offers to Person B ( $M = 75.49, SD = 28.52$ ) as significantly lower in comparison to controls ( $M = 90.17, SD = 25.52$ ),  $p < .05$ , and slightly lower than participants with cooperative peers ( $M = 84.93, SD = 26.98$ ),  $p = .08$ . No main effect was found for clinical status,  $F(1, 205) = 2.17, p = .14$ , partial  $\eta^2 = .01$ . However, we found a significant interaction between condition and clinical status,  $F(2, 205) = 4.12, p < .05$ , partial  $\eta^2 = .03$ . Post-hoc comparisons using the Tukey HSD test revealed that High SA participants in the Cooperative condition rated their offers higher on the fairness scale in comparison High SA participants in the Non-Cooperative condition,  $p < .08$ , 95% CI [4.17, 40.47]. Similarly, the High SA participants in the Non-Cooperative condition regarded their offers as significantly less fair in comparison to High SA Controls  $p < .05$ , 95% CI [-39.54, -2.43] and Low SA participants in the Control condition,  $p < .001$ , 95% CI [-44.64, -8.33]. Our results also show a marginally significant difference between High SA individuals and Low SA individuals in the Non-Cooperative condition,  $p = .050$ , 95% CI [-36.31, -0.005], with high SA individuals rating their offers as less fair. Our analysis shows no other significant differences, all  $ps > .18$ .

#### Guilt

Feelings of guilt were significantly influenced by experimental condition,  $F(2, 205) = 14.61, p < .001$ , partial  $\eta^2 = .12$ . As such, all participants, High and Low SA, in the Non-cooperative condition reported significantly higher guilt after proposing an amount to Person B. No other main effects or interactions were significant, all  $ps > .19$ .

## Discussion

In the current research, we investigated whether reciprocity and conformity to peers' behavior are influenced by social anxiety. In this regard, we used a modified multi-shot Prisoner's Dilemma task, and contrasted high versus low SA participants across three experimental conditions. Participants were thus presented with two alternative responses: reciprocate fairness or conform to unfairness. Our findings are presented below.

Firstly, we found that high SA individuals tend to align to peers' unfair behavior, even though conformity, in this particular case, is to mistreat an otherwise well-intentioned stranger. Importantly, reduced reciprocal giving in high SA individuals was observed only in the non-Cooperative condition, therefore only when prompted by others' unfair behavior. In the Control (no peer influence) and Cooperative (prosocial prompt) conditions, however, high SA individuals did not differ from their low SA counterparts in terms of money allocation, that is, high SA individuals were just as reciprocative as low SA participants. This finding adds to the literature in several ways. While the general population seems to make decisions based on past reciprocity or cues of future cooperation (Romano & Balliet, 2017), individuals high in SA appear to prioritize their specific group's norms rather than the generally endorsed norms of behavior. This finding can be regarded as complementary to the research linking SA with substance use (Terlecki et al., 2015), in the sense that high SA individuals are willing to go against the norm (i.e., "drinking is harmful") to gain acceptance from their reference group. However, we note an important distinction between these two instances. With substance abuse, individuals seek social acceptance at their own expense. Our findings show that high SA individuals can also seek approval at the expense of others and easily mistreat an unrelated other, despite reporting elevated levels of guilt. While guilt is associated with compensatory actions within the general population (Ding et al., 2016), it appears that conformity overrides guilt-related compensatory actions in high SA individuals, whose actions have been shown to be rather driven by shame (Gilbert, 2000).

Thus far, our findings on reduced reciprocal behavior in social anxiety, (Anderl et al., 2021; Rodebaugh et al., 2013) have a twofold bearing. First, we showed that, as opposed to the general population which follows the norms of reciprocity and endorses them (Romano & Balliet, 2017), for the high SA individuals, conformity outweighs reciprocity. This finding is particularly intriguing and can potentially advance our understanding of why high SA individuals have marked difficulties in extending their network of friends (Van Zalk & Stattin, 2011), given that reciprocity is a prerequisite of trust and cooperation. Overly focused on their existing network of friends, they may lose the opportunity to make new friends.

Second, while previous studies reported that high SA individuals were more readily to adopt the prosocial behaviors of the group (Feng et al., 2018), our findings show that in order to gain social approval, the tendency to align with the norms of the reference groups generalizes to non-cooperative behaviors as well. While the above-mentioned findings show clearly that the socially anxious are more compliant to external demands (irrespective of their social valence), our understanding of why the socially anxious display such a pattern of behavior is limited. We argue that the answer

may be found in the evolutionary accounts of social anxiety. Evolutionary theorists suggest that socially anxious individuals see themselves as low-rank members of the social group. In order to remain part of the group, the socially anxious tend to behave in a culturally-accepted manner inside their reference group and avoid conflict at all costs (Gilbert, 2000). Alternatively, our results could be interpreted in light of the Self-Presentation theory of social anxiety (Leary & Jongman-Sereno, 2014), that explains the need for approval in SA in terms of the individuals' concerns with how others view them.

Notably, we highlight several theoretical and empirical implications that emerge from our findings. First, we emphasize the need for interdisciplinarity in the study of social anxiety. By studying clinical psychology constructs by means of decision-making tasks, we can simulate the real-life implications of SA in decision-making. Moreover, the use of socio-economic tasks such as the PD in clinical psychology allows us to investigate real-time interpersonal dynamics. Further, our efforts align with the ongoing initiative of the National Institute of Mental Health (NIMH) to develop a research-derived classification system based on observable behavior (Cuthbert & Insel, 2013).

A number of interpretive caveats, however, reduce the generalizability of our findings. As previously stated, participants were told that Partner B would receive no information in regard to their identity. As such, our findings are indicative for situations without direct social accountability. Future replications using face-to-face interactions are highly encouraged, as social accountability may override conformity to peers' behaviour in high SA individuals. Also, it should be noted that our sample was based on pre-screening procedures and participants were recruited from the broader community. We reinforce that LSAS scores alone are not equivalent to receiving a formal diagnosis of SA, as would be for instance an in-depth SCID assessment. While past research indicates that the overall behavior of analogue samples is similar to that of clinical samples especially on interpersonal or social performance tasks (Stopa & Clark, 2001), it is not entirely clear whether our results generalize to individuals with a formal diagnosis of social anxiety. However, using varying degrees of impairment is consistent with more recent advances that call for the investigation of the entire spectrum of SA (Cuthbert & Insel, 2013). Future studies should also account for socioeconomic status and rural-urban classification.

Overall, our findings show that conformity to peers, rather than reciprocity, seems to inform social decision-making and cooperation in the high SA individuals. Notably, we replicate and extend previous findings on "abnormal" conformity in SA (Feng et al., 2018), and show a novel facet of conformity, that of aligning to peers' unfair behavior despite mistreating an unrelated and well-intentioned third party.

**Data Availability** Data supporting the findings of this paper will be available on the github account of the corresponding author <https://github.com/acbica/Social-anxiety-and-conformity>.

## Declarations

**Ethics Approval** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

**Consent to Participate** Informed consent was obtained from all individual participants included in the study.

**Consent for Publication** All authors give their consent for the publication of identifiable details.

**Conflicts of Interest/Competing Interests** The Authors declare that there is no conflict of interest.

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